









126198

LIBRARY

THE

# PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

State Library

This Paper not to be taken from the Library.\*\*\*

Vol. LXVI. No. 1.

SAN FRANCISCO, SATURDAY, JULY 4, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## Eucalypts in California

The behavior of this noble genus of Australian trees calls for many pictures and descriptive notes in our columns and justifies all the attention paid to it. As the years go on, the eucalypts will command wider attention and contribute more and more to the delight and comfort of the California people. We give a few pictures on this page which show both young and old trees, also the picturesqueness of single trees and the effects of masses, as the words beneath the pictures adequately signify. One picture is, however, notable, as it shows a grove of tall blue gums with the foliage stirred by a moderate westerly wind. This grove occupies about two-thirds of an acre of land and the trees are about twenty-five years old.



Eucalyptus Grove, Three Years Old—Santa Monica Forestry Substation, Los Angeles County.

There are 250 trees, the largest of which girths 7½ feet at the breast height of a man. Mr. C. H. Shinn, in his last report of University Experiment Station work, says the trees on the outer edge of this grove range from 40 to 90 inches in girth, stand 8 to 10 feet apart, and often rise 40 feet without a branch; in the middle of the grove the trees are from 18 to 30 inches in circumference, but with even taller shafts. It is estimated that this grove, if cut for fuel, would

yield about 400 cords of firewood, or at the rate of about 600 cords per acre. This represents perhaps what the blue gum may be reasonably expected to do on bottom land of medium depth and reasonably well supplied with water by adjacent winter-running creeks in the lands about the bay of San Francisco.

Another picture of a grove of young trees at the Forestry Station near

Santa Monica shows how soon the landscape can be sensibly modified by these trees. Upon another page will be found interesting data in detail about the species at that station.

For a graceful single tree the Santa Monica specimen shown herewith is quite satisfactory.



Eucalyptus Sideroxylon (Var. Rosea).



Eucalyptus Grove (E. Globulus) Near Economic Garden at Berkeley.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, July 4, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Eucalyptus Grove, Three Years Old—Santa Monica Forestry Substation, Los Angeles County; Eucalyptus Sideroxylon; Eucalyptus Grove Near Economic Garden at Berkeley, 1.  
EDITORIAL.—Eucalypts in California, 1. The Week, 2.  
QUERIES AND REPLIES.—Blister Mites and Cicadas; For Alfalfa Growing, 2. Ventilating and Cooling of a Cellar; Drowning Orange Buds; Paris Green Prescription for Ants Not Approved; Hypodermics for Trees; A Good Pump Needed; Scale on Camellia; Undesirable Honey; Salt Bush, 2.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending June 29, 1903; Temperature and Rainfall, 3.  
FRUIT MARKETING.—Strong Exhortation on Co-operative Selling, 4.  
HORTICULTURE.—The Nursery From the Standpoint of the Orchardist; The Tilton Apricot, 4.  
THE STOCK YARD.—A Texan's Notes on California; Cattle Scarce on This Coast; Breeding for Color in Shorthorns, 5.  
FORESTRY.—Forest Investigations; A Ten Days' School of Forestry, 5.  
THE FIELD.—Nebraska Data on Alfalfa, 5.  
ARBORICULTURE.—The University Eucalyptus Groves at Santa Monica, 6.  
THE STATE FAIR.—Promising Preparations for Stock Show, 6.  
AGRICULTURAL REVIEW.—7.  
THE HOME CIRCLE.—The Country Town; Marjory's First Celebration; Some Axioms and a Few Rules; The Early Morning Air; Ventilation in the Hat; Clerk at the Speaker's Desk, 8.  
POLLY'S FOURTH; Chinese Contrasts; The Tools of the Egyptians; Bavarian Creams; Hints to Housekeepers; Domestic Hints; Humorous; An Air Tight Flit, 9.  
THE MARKETS.—Produce Market; Fruit Markets, 10.  
THE VETERINARIAN.—Black Leg; Answer to Inquiry—Congenital Rupture, 12.  
MISCELLANEOUS.—Better Roads and Better Schools; Irrigation With Pumping Plants; An Idaho Way With Squirrels, 14. Ignorance About Phylloxera; The Raisin Association; Farmers' Insurance Companies; Saltpeter for Corn Ear Worms; New Patents, 15.

## The Week.

This week will close with a bang, for the Fourth of July is on the after end of it and the American boy is waiting for it. There ought to be more earnestness than usual in the demonstration this year, because this is the hundredth anniversary since the Louisiana Purchase gave Uncle Sam a very valuable part of his Western country at a decidedly cut rate and laid the foundation for the expansion policy which has since then attained imperial proportions. The occasion should give the orators the chances of their lives and the small boys the chances of their deaths in patriotic profundity. We have indulged so freely in anticipation of the great day's spirit and significance that we have nothing left for present use save the reflection that it is eminently fitting that one measure of the nation's greatness, which is largely conditioned upon the achievement of a hundred years' ago, is to be found in current facts of our national trade. We read that the figures of the Treasury Bureau of Statistics show that the foreign commerce of the United States will be, in the year ending this week, the largest in the history of the country. Imports will for the first time exceed \$1,000,000,000, and exports will be larger than in any preceding year except 1901. The largest exports of any preceding year, except 1901, were \$1,394,483,012, in 1900, and the export total for the year will exceed that of 1900 and will pass the \$1,400,000,000 line. The total commerce—by which is meant the imports and exports combined—will make a grand total exceeding that of 1901 and the greatest in the history of the United States. In spite of increasing imports Uncle Sam will have a balance of nearly half a billion dollars on the right side of his account with the world at large!

Speculative wheat was rather exalted at our last figuring, and it has dropped since then; but spot wheat is not affected. Very little is offering and the value is solid. Wheat exports for the year ending June 30 were 263,380 tons, worth \$7,067,000—rather a light year's work. There has been no clearance of wheat this week, and none in June, except what went on one ship with a larger weight of barley. Barley as an export grain is advancing; the clearances for the year were 177,000 tons. Barley is unchanged;

most new barley is purchased before arrival. Buckwheat is a little higher; other minor grains unchanged. Beans are stationary. Bran is lower and middlings easier; rolled barley is a little lower. There are free arrivals of hay, but no change in price; straw is higher and scarce. Beef and mutton are steady and hogs firm, especially large hogs, for small hogs are more plentiful. Butter is slow and has tendency toward weakness; the quality is declining, there is less used and the Eastern markets are lower, encouraging movement this way. Cheese is fairly steady; receipts from Oregon do not affect things so far. Eggs are worse than last week, the current supplies being fully abreast of the light demand and no further chance for storage. There is a little better feeling for large young chicks and fat hens. Potatoes are very stiff and higher for both new and old—the old for seed and the new for export both north and east. Onions are easier, with large receipts and slack demand. Fresh fruits are in good supply, and though common grades go lower than last week, the best hold values well. Lemons are just steady. New dried apricots are reported selling in sweatboxes in the country up to 6½@7 cents. The lower grades of old prunes are firmer. Some new prunes are said to be contracting at 2½@3 cents. Honey, mostly old, is going by steamer to Germany. There is little new arriving and prices are unchanged. Hops are firm in the country and little doing here. The same is true of wool, though some interior sales are said to be something below opening prices. Eighty-three tons of wool have gone to New York by water.

We give on another page some facts which show that the livestock branch of the coming State Fair is very much alive and developing rapidly. This is a good place for activity to break out, for popular inquiry is particularly short along stock lines, and if all the people who are thinking about laying in some good breeding animals would go to Sacramento to see the best and to hear the judges expound their merits, there would be a good crowd and a wise one also. It will be hardly less instructive for the part of this multitude which is dreaming of dairy doings, to occupy front seats at the great dairy meetings which will be held. Director Johnston will naturally carry the searchlight in this branch of the stock industry with Judge Shields to direct the lens. The State Dairymen's Convention and the State Creamery Operators' Convention will be held in Sacramento during the State Fair, and the quartet of judges can be called upon for programme numbers. The fruit industries should not allow themselves to be overshadowed by the livestock doing. Perhaps the collection for the St. Louis fair can be given a preliminary display and the State Commissioner of Horticulture could give the public some demonstration of his promotive work.

Just as we go to press and too late for full exposition in this issue, we receive a budget of Consular fruit reports through the Pacific Commercial Museum of this city. Some of the details will be interesting next week, but we haste to give our readers at once some of the main points. The report on the almond crop from Malaga is that there is promise of a large crop, especially large on Jordans. Quite otherwise is the Marseilles report, which says that the French will have only a quarter of a crop, while the crop in Spain and Italy, particularly in Sicily, will be good. Marseilles estimates half the average output of shelled almonds and one-third the supply of almonds in the shell. Grenoble walnuts look well, but it is too soon to judge; the crop will be late. The Malaga raisin crop promises to be larger even than last year, which was the best for fifteen years. Valencia also reports a large raisin crop. The summer lemon crop at Palermo promises to be good, but small—one-third less than last year.

Fruit is going forward rapidly from this city to Eastern markets, says the Sacramento Union, and a heavy movement of all varieties is expected this week. Cherries and apricots are nearly done and will be gone by the middle or end of the week, and Hale's early peaches will be coming in freely during the week. There are a few scattering shipments of Bartlett pears that will probably be made during the week. Prices remain satisfactory for growers.

## QUERIES AND REPLIES.

### Blister Mites and Cicadas.

TO THE EDITOR:—I send you in separate packages samples of crab apple, Japan plum and pear from my orchard planted two years ago. The pear (Winter Nellis is unaffected, but all my other kinds are more or less diseased) leaves were very badly blighted at first, as you can see by the old leaves. At first I thought the new growth would be all right, but it isn't. What is the matter? The apple and plum (as are also many of my other trees) are troubled by some kind of a borer. Can you tell me what it is and the remedy? I have often seen the work of the same borer, but not until this year had I seen trees badly enough affected for the limbs to break off.—HAMILTON OTIS, Cazadero.

Your pear leaves are badly infested with the "blister mite," or phytopus, an exceedingly minute insect, hardly discernible with the naked eye, which bores into the leaf tissue and causes the peculiar blotches or swellings which you notice. The newer broods run out and establish themselves on the young growth, and the work of the mite reduces the effectiveness of the leaf, and in that way indirectly reduces the tree. As the insects are under cover largely it is very difficult to reach them by applications. The best treatment is the use of kerosene emulsion early in the season just at the time when the leaves are starting out vigorously, and if the mites are largely killed at that time the following injury will be slight. There is nothing you can do then for this insect until next spring.

The wounds in your apple, plum and other fruit trees are caused by the "harvest fly," or cicada, an insect of considerable size and with such a broad head that it seems triangular in shape. It has large transparent wings and flies readily. At the end of its body is a sharp chisel-like process, by which it is able to chip into the twigs for the deposit of its eggs, and this cutting is done so deeply that the twigs become weakened and frequently break in the wind. The young cicadas hatch from these eggs, make their way to the ground, and live for a certain time upon the roots of plants. Some of them have short periods of the larva stage, others very long, for the so-called "seventeen-year locust" is a cicada, and not a grasshopper, as many people suppose. The injury which is done to fruit trees consists in the mechanical effect upon the twigs—probably the insect itself does not eat the trees to any appreciable extent. The insects are native and have departed from the wild shrubbery to the fruit trees. The best way to reduce their number is to cut off and burn all the chiselled twigs as fast as they are seen, because then the eggs are destroyed and future generations cut off. No other treatment can be suggested.

### For Alfalfa Growing.

TO THE EDITOR:—I am a new comer to this State and a prospective settler. Will you please advise me which county or counties are the best for alfalfa and which ones offer the best inducement in this respect. What character of soil is considered the best to get the very best results? After talking with different ones who seem to think they understand their subject, I am forced to the conclusion that a good share are ignorant, and which ones I am unable to determine for myself, therefore the reason for writing you. In your opinion, what line of agriculture offers the best inducements to one who has considerable capital?—INVESTOR, Santa Barbara.

Alfalfa does best on the deep loams of the interior valleys of California when abundant water is available for irrigation, and the district of the State where these conditions exist most abundantly at the present time is the San Joaquin valley from Stanislaus county southward to Kern county. There is also good alfalfa land in Orange and Los Angeles counties and possibly in other places in southern California, but the water supply of southern California is so widely used for other crops that the price is high and the amount apt to be limited. For cheap land and abundance of water at low cost the San Joaquin region is unquestionably superior, though similar conditions are awaiting development in the Sacramento valley. Alfalfa growing on poorer, shallower lands of the coast district and in the cooler climate which prevails there is undertaken at a disadvantage. Of course, we have given you this decision wholly on the basis of what is good for the alfalfa. It must be admitted that some places where alfalfa produces the largest returns are not always



considered the most desirable for residence. As for private investment in agricultural production, we think nothing promises better at the present time than large scale operations in stock growing on an alfalfa basis.

#### Ventilating and Cooling of a Cellar.

TO THE EDITOR:—Will you give me some suggestions in your columns for ventilating and cooling a storeroom. We have a stone storeroom, walls a foot thick, with three sides built mostly underground and a double roof with funnel-shaped chimney opening in the roof for ventilation. There are no windows, but ventilation is secured by opening the door at night and on cool days. Would holes bored in the bottom of the door improve the ventilation at the expense of coolness? Also, would water sprinkled on the earth floor give coolness without harmful dampness? I understand that it is the warm air from the outside striking the cool inside walls that causes mold. At present our storeroom is dry and cool, but when the thermometer reaches above 90° with warm nights also, it is not as cool as could be desired.—OLD READER, Santa Rosa.

All admission of the day air will be at the cost of coolness, because it will tend to equalize outside and inside temperatures; consequently boring holes in the bottom of the door will make the cellar warmer. The evaporation of moisture from the floor would reduce the temperature and increase the moisture; whether the dampness would be harmful or not depends upon the amount of it. In the hotter, drier parts of the State moisture can often be added with advantage to the summer air to prevent the shriveling of apples, potatoes, etc., which may be in storage. It is not the warm air alone striking the cool walls that causes mold; it is also the moisture condensed from the warm air upon the walls. Unless you have ice your best policy is to keep the cellar closed except when you have cool air to admit to it; if you use ice you need more ventilation to dispose of moisture released by the melting ice, and in that case holes in the bottom of the door would be of advantage.

#### Drowning Orange Buds.

TO THE EDITOR:—I have a citrus nursery on heavy gravelly soil sloping toward the south. The buds are about a foot high. A red gum appears at the juncture of the bud and main stalk on upper side. This gum, sometimes with a brownish tinge, seems to eat away the bark of the bud or else the bark dries up and splits open, the gum oozing out. Can you suggest the cause and a cure.—NURSEYMAN, Los Angeles county.

Your buds are "drowned out," as the saying is. This means that there is such a strong sap flow that it interferes with the proper growth of the bud to the stock. The exudation of sap and gumming result in fermentation and the bud perishes. This effect can be produced in nearly all kinds of trees if the top is reduced too much after budding. Ordinarily the top growth should not be cut back at all, or at least very little until the bud has properly joined itself to the stock and it is ready to take the sap. You do not say in your letter whether you have cut back or not; if not, this extra flow of sap at this time may mean that the top growth was not sufficiently active owing to the low temperatures which have prevailed this season to dispose of the sap properly. Budding should usually be done when active growth is in process, because then the sap seems to be adequately disposed of and distributed through the tree. There is nothing which can be suggested in the way of a cure for the buds which fall except to put in another bud lower down, if possible, for perhaps by this time the sap flow is under better control.

#### Paris Green Prescription for Ants Not Approved.

TO THE EDITOR:—I thank you for your kind and prompt answer to my request for a cure for ants, but the Paris green does not seem to do any good though we have used it quite faithfully. I should be pleased to receive any other suggestions.—SUBSCRIBER, East Oakland.

We are sorry that your ants do not take kindly to Paris green and can think of nothing else to recommend in the way of poison. Some people are very successful in trapping ants; that is, taking bones out of fresh meat with a little of the meat adhering. Place a bone of this kind in the place frequented by ants and they are apt to swarm upon it and the bone can then be thrown in the fire. Those who have succeeded with this sort of trapping say that after a few days the ants will forsake the house, and ant experts

explain it by reference to the great intelligence of the ant. Having come into contact with some very destructive force which it does not understand the survivors are warned to forsake the premises. If you try this trapping we trust your ants may be of this intelligent kind.

#### Hypodermics for Trees.

TO THE EDITOR:—I send a paragraph from an Eastern literary journal about "hypodermics for trees." What do you think about it?—READER.

We think that the claim is so old and has been so often disproved that no horticultural journal worthy of the name would seriously publish it. The claim is that "a hole or socket is bored into the trunk of the tree and in the opening is deposited a compound to be taken up by the sap into the branches of the tree. The compound injected into the tree consists of gunpowder, saltpetre, copperas and sulphur. Pulverized and mixed and applied according to a patented process, the ingredients are said to be readily absorbed by the tree." To our knowledge this alleged cure has been hawked about by tree doctors for the last thirty years. We have had the holes bored and the stuff put in by these doctors several times just to satisfy their importunity, and we have opened the holes a year afterwards and found the deposit unchanged. We do not have a bit of faith in such a line of treatment.

#### A Good Pump Needed.

TO THE EDITOR:—I have about fifteen acres of land lying on the bank of the river. One-third of the land I could irrigate by raising the water 10 or 12 feet out of the river. To get it on the highest part of the land it would, perhaps, have to be raised 30 or 40 feet and probably higher—but, I think, not over 40 feet. Can you tell me the cheapest and best way to get plenty of water to irrigate the land? There is plenty of current to run a wheel; perhaps this would be the cheapest for the low land.—SUBSCRIBER, Redding.

You need a good engine and pump, and you would do well to visit along the river somewhat to see which pumps and motors are giving best satisfaction. Also, write to the firms advertising irrigating pumps, etc., in the PACIFIC RURAL PRESS. If you send them a careful account of the lift and the distance the water has to be carried to reach the high point for distribution, they will send you good advice about the cost of output and installation. Current wheels are not good for a high lift, though they might be used to advantage on the lower lands, as you mention.

#### Scale on Camellia.

TO THE EDITOR:—Enclosed please find some camellia leaves infested with some kind of scale. You will notice the eggs on the white spots. Please inform me through the PRESS what it is and what is the best remedy to exterminate the same.—SUBSCRIBER FOR MANY YEARS, Humboldt county.

Wait about a month and then spray with kerosene emulsion thoroughly. Some of the eggs are unhatched and it is better to wait until the young scale are all out than to spray now and let the new brood out later. It is one of the lecanium scales, but we cannot say which, because you carefully removed all the covers before sending the leaves. It is almost as hard to distinguish between some scales with the lids off as it would be to recognize a friend by the sight of his back teeth.

#### Undesirable Honey.

TO THE EDITOR:—We have four colonies of bees which have produced plenty of honey, but it is very dark and has an unpleasant flavor. Please tell the reason. The bees are located near San Pablo avenue and Forty-fifth street. Is there any good white honey produced near the bay, and what are considered good locations in this section of the State?—SUBSCRIBER, Oakland.

The trouble is, of course, not in the bees but in the honey plants. Good white honey is made in Berkeley, where the bees work on garden flowers, fruit tree blossoms, eucalyptus blossoms and the blooming shrubs of the adjacent foothills. Probably your bees have been working on the rank weeds which are abundant on the flat lands around the bay, and unless you can grow clover or mignonette for them, they are not likely to do better.

#### Salt Bush.

TO THE EDITOR:—Will Australian salt bush grow on sandy land or bottom land? Which variety is

best for pasture on these lands? Will it grow where our salt grass does?—STANISLAUS READER, Modesto.

Salt bushes ought to catch on the land you describe if the seed is scattered at the beginning of the rainy season and covered very lightly. The *Semibaccata* species is the one which has been most generally approved. It will stand much alkali.

## WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending June 29, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

#### SACRAMENTO VALLEY.

The weather was favorable for crops, and no serious damage was done by the heat at the close of the week. Fires destroyed considerable grain in Yolo county. Light showers fell in the northern districts Sunday. Grain harvest is progressing rapidly in nearly all sections and thrashing has commenced in several places. Barley is yielding a good crop, excellent in quality. Early wheat is reported light in some sections and about average in others. Late wheat will make a very light crop. Hay baling continues; the yield is below average, but the quality is excellent and the market good. All deciduous fruits are doing well and ripening rapidly. Apricot drying continues. Pears and prunes will yield a large crop. Grapes are in excellent condition and will probably yield heavily. Citrus orchards appear thrifty.

#### COAST AND BAY SECTIONS.

Conditions during the week were generally favorable for crops, though slight damage was done to small fruits by heat. Light rain fell on the northwest coast. Grain harvest continues in the central and southern districts and will soon be general. Barley and early wheat are yielding fair crops, but less than expected early in the season. Hay baling is progressing rapidly; the hay is of excellent quality and the yield in some places better than estimated. Corn, potatoes, beans and hops are in good condition and fair crops are probable. Grapes are remarkably thrifty and will yield heavily. All deciduous fruits are in good condition and maturing rapidly; the yield of most varieties will be large. Early apples and pears at Hollister are ripening; there will be a good crop. Almonds and walnuts at Cloverdale are filling out well.

#### SAN JOAQUIN VALLEY.

The weather during the past week has been clear and warm, beneficial to the fruit crop and favorable for grain harvesting. Grain is ripening rapidly and harvest is progressing. In some sections the summer-fallowed grain is yielding three or four times as much as the winter plowed. The barley crop is reported good in some places and very light in others. Most of the barley harvested is being stored. The fruit crop is maturing rapidly and apricot drying has commenced at most places. Large shipments are being made to Eastern points. Grapes are making good progress and summer crops are doing remarkably well. The second crop of alfalfa is being cut and making a good yield. Stock are healthy and in good condition. Irrigation water is plentiful.

#### SOUTHERN CALIFORNIA.

The weather during the week was warm and generally clear, with cool nights. Grain harvest continues, and in some places the yield is even better than expected; wheat and barley are excellent in quality. The grain crop in El Cajon valley is estimated at 50,000 sacks. The hay crop is being baled; the yield is heavy and the quality excellent. Sugar beet harvest has commenced. Lima beans are making good growth; there is a large acreage. Potatoes are light, but of good quality. Mustard at Lompoc is being somewhat damaged by bugs. Walnuts and apples are dropping badly in some orchards. Apricots are slowly ripening and drying has commenced in some places; they are of large size and superior flavor. Nearly all deciduous fruits and grapes will make excellent crops. Citrus fruits are in good condition.

EUREKA SUMMARY.—Oat hay is being cut earlier than usual; the yield is below average. Recent fogs and showers have greatly benefited grain and other crops.

LOS ANGELES SUMMARY.—Warmer week improved crop and vegetable growth. Berries and fruits are plentiful and of good quality. Apricot harvest begun; some early peaches ripening.

#### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 1, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka.....	.04	T	.00	.00	68	52
Red Bluff.....	.01	.00	.00	.00	100	66
Sacramento.....	T	.00	.00	.00	100	58
San Francisco.....	.00	.00	.00	.00	75	50
Fresno.....	.00	.01	.00	.00	108	61
Independence.....	.00	.00	.00	.00	98	66
San Luis Obispo.....	.00	.00	.00	.00	92	50
Los Angeles.....	.00	.00	.00	.00	80	58
San Diego.....	.00	.00	.01	.00	68	58
Yuma.....	.00	.00	.00	.00	112	68



## FRUIT MARKETING.

### Strong Exhortation on Co-operative Selling.

By MR. A. R. SPRAGUE and MR. GEORGE ANDREWS at the San Jose Farmers' Club, as reported by the Mercury.

A good number assembled to engage in a discussion of the question of the co-operative marketing of dried fruits, in conference with A. R. Sprague of the California Fruit Exchange, and also George Andrews, district organizer of the Rochdale Company.

After the addresses by Mr. Sprague and Mr. Andrews, and general discussion, a motion was unanimously carried requesting the president of the Farmers' Club, F. H. Babb, to personally see the presidents of the various co-operative fruit exchanges throughout the valley and get them to agree to call a simultaneous meeting of their boards of directors at some one place to consider and take action upon the matter of co-operation in the marketing of their fruit.

**MR. SPRAGUE'S ADDRESS.**—Mr. Sprague said he was there to consider with his hearers, not the advantages of co-operation, for they were known, but what method is available by which they might at once proceed to gain the benefits of co-operation in the marketing of their dried fruits.

The organization he represents, while at present interested in fresh fruit, can see economy and increased efficiency in the larger volume of business by the combination of their present line with that of dried fruits. There would be advantage for both, for the latter in the opportunity of getting in connection with an organization already doing a large and successful business.

The plan of organization is simple. It is thoroughly representative. Several local organizations for packing fruit form a central organization, to which they elect representatives from their various boards, and this allies itself with the California Fruit Exchange, to secure the outlet for its fruit to the Eastern markets, and to regulate to some extent those markets.

**CONDITIONS OF SUCCESS.**—To be successful such an organization must be able to do business successfully from the start, to effect the sale of their products to as good advantage as any other way, and the experience of all such is that it is to better advantage. Provision must be made for growth and adjustment to conditions as they arise.

It is necessary, Mr. Sprague said, to know how much of the fruit can be controlled absolutely, but it is not necessary to have control of the whole product. It might be necessary to bargain at first for a portion of the crop only.

The commercial shippers would likely wish to join, and after a little while it might be to the advantage of both parties to effect such a combination; but only when the organization of growers had shown sufficient strength to go alone, so they would be able to do their own marketing and have no discrimination against them.

Mr. Sprague told of the encouraging experience of his exchange, showing that it was a thoroughly successful movement. No man who puts in a ton of fruit risks or loses a dollar. It is absolutely safe and efficient.

**PROFITS SHARED.**—In such a co-operative system the grower gets the profits in yearly dividends; and the system is more economical by far than the individual competitive one, so that the profits are much larger.

The Exchange furnishes all that the grower needs for curing and packing, such as boxes, labels, sulphur, etc., at current prices, and turns back the profits at the end of the year. The commission charged for sales, including all the work of agents and brokers, is the same as that of the commercial packers, 5%, but the excess of this over actual cost is included in the yearly dividend.

"Every co-operator," declared Mr. Sprague, "helps every other co-operator. And we have to look to co-operation more than ever to solve the tremendous questions before us these days."

The handling of the fruit in the East is accomplished by a few tested, capable agents on salary, having a sufficient number of trustworthy brokers subordinate to them to solicit orders and place the fruit. Most of the fruit is sold by samples, before any of it leaves the growers' warehouses. The salesmen are under bonds and the Exchange has not had a single loss.

It is not thought best to pool all the fruit on grades. If one grower or one local exchange wants to get out a better grade, let this be done, and let the fruit sell on its merits. This tends to avoid the shipment of so much poor fruit, and to eliminate unjust discrimination.

"The fundamental basis of all co-operation is fairness, justice," said Mr. Sprague, "and in my experience of many years, I have generally found the average man is disposed to be fair. We need just to sacrifice non-essentials for the sake of harmony."

**TO INCREASE MARKET.**—One thing that needs to be more attended to is the putting up of the fruit in smaller packages to insure greater cleanliness and

attractiveness. Provision may be made for dividing car lots, so as to enable more small towns to take the fruit. The greatest thing that needs to be met is the excessive profit demanded by the retailer in the East. For example, dried peaches, for which the grower here gets 3½ cents a pound, retail in Minneapolis for 15 cents, and apricots for 20 cents; last year the prices were 20 cents and 25 cents. If they sold at 8 and 10 cents they would be bought freely by many more.

Mr. Sprague spoke about the Rochdale system. He is president of the Sacramento Rochdale store and a director of the San Francisco wholesale Rochdale. The California Fruit Exchange is closely in touch with the Rochdale system, particularly for the foreign market. They have a preference with them. They work along similar lines.

**ROCHDALE CO-OPERATION.**—George Andrews, organizer for this district of the Rochdale system, spoke more at length on the merits of that system. He explained that its object is not to cut prices on any consideration, but the profits of co-operation are returned at the end of the year.

It is a purely democratic system, its cardinal principle of management being one man one vote. Ten per cent of the members can at any time call a public meeting on ten days' notice. Two-thirds vote controls everything. They buy and sell for cash only.

Mr. Andrews gave interesting statistics showing the wonderful growth of the system in its sixty years of existence. Its capital in 1844 at organization was \$140, now it is \$187,750,000. There are 2,000,000 members in Great Britain alone. Last year it turned over a business of \$455,000,000, the net gain being \$13,750,000.

Further discussion of plans and advantages of both methods was eagerly engaged in by many of those present. It was stated that the Exchange will take in any organization that will join in it. They would prefer, however, to have all or as many as possible of the local organizations to centralize and thus unite with the Exchange. And while it is more desirable for these to do their own marketing, yet the Exchange is willing to meet the wishes of the Santa Clara growers, and if they desire the Exchange to sell for them that can be done.

**MR. SPRAGUE AGAIN.**—The work of actual organization, Mr. Sprague assured the meeting, need not be dreaded. The plan offered is not speculative, but safe, and perfectly simple. Campbell Fruit Union has already endorsed it. Mr. Stevens said a number of his neighbors, with himself, had decided to sell through the Exchange.

The necessity was urged of doing something, rather than everlastingly talking about it and not acting. The time is ripe for exactly such a start, and if the Santa Clara growers will go forward in this definite, business-like way, the movement will grow and be a great success.

The resolution recommending a meeting of the directors of the various local exchanges and unions was then passed.

## HORTICULTURE.

### The Nursery From the Standpoint of the Orchardist.

By MR. E. L. SMITH, Hood River, Or., Before the Pacific Coast Association of Nurserymen's Meeting.

Leading educators hold that the very best teachers should be assigned to the primary grade, in order that the young child with receptive and easily moulded mind may receive primarily the wisest direction. Is it not also true that the young tree—the child of the nursery—in the earliest periods of its existence requires more skillful attention than at any other stage of its growth?

It is not within the province of this paper to discuss the technical methods of the nurseryman. Indeed, it is a matter of little concern to the average orchardist how his tree is grown, provided proper results have been attained.

**WHAT THE PLANTER SHOULD WANT.**—Given for a tree, say, one year old, a stocky trunk, with large, well-balanced roots, and he will waive all questions as to whether it was budded or grafted on root or seedling. He abhors a tall spindling tree with pipe-stem body, with a bunch of small fibrous roots, that will not survive transplanting.

Now, while the orchardist may be somewhat indifferent to the manner of growth of his tree, he is beginning to be quite concerned as to the quality of the bud or scion that has been used.

He has been informed that it is a common practice to cut grafting wood from the nursery rows, and an opinion has attained that, while this may produce a woody growth, it delays fruitfulness, and that at other times he takes his scions indiscriminately from long rows of orchard trees with varying qualities of vigor, health and fruit productiveness, and thereby transmitting like conditions to the next tree generation.

These methods seem to him faulty, and he would like to see the nurseryman co-operate with the orchardist in securing his cuttings from trees that are

the pride of the orchard—trees of perfect health and growth and years of money-making records.

**POOR TREES NOT CHEAP.**—The orchardist is finding out from sad experience that trees low in price are very dear in the end; and I know one at least that sincerely wishes that no seconds or culls at from 4 cents to 5 cents each should ever be thrown on the market, but should be converted into potash and lime for the benefit of the next tree generation. If we breed from the poorest, no matter whether from flock, herd or nursery, the result is ever deplorable.

Indeed, I would like to see this Association establish a standard of growth for No. 1 trees, with points of excellence for root and branch and a reasonable, uniform price for the same. But I implore you, gentlemen, to save us from new varieties at a dollar each, described in such glowing colors that we can not help buying them.

Just think of the Delaware Red Winter served up in great style as the Lawver, and our horticultural papers are full of florid descriptions of the Missing Link apple and hundreds of agents are selling them through the country at an extravagant price. Prof. Van Deman writes that if we miss this missing link we wont miss much, and Col. Brackett, our Chief of Pomology at Washington, after giving it a critical examination, can not detect any difference between this much-advertised Link and the good, old, unassuming Willow Twig.

**LIGHTS THAT HAVE PASSED.**—More than 4000 varieties of the apple have been catalogued, and I venture the assertion that at least one-half of these varieties, once stars of the first magnitude, no longer shed their light in the horticultural world. They have ceased to exist.

I invite you gentlemen to name any variety that has originated within your recollection—yes, within the last 100 years—equal in value to others that antedate that period. We should, of course, investigate new varieties—for all were new at one time—for when they come into bearing we usually have to work them over to something older and better, and this involves delay and expense.

**TRUE TO NAME.**—I now approach with no little timidity one of the most mystical problems of orcharding, and we earnestly solicit your co-operation in solving this mystery, and that is the tendency of nursery trees to revert or change to other varieties after transplanting to the orchard. For example: In the southeast corner of my orchard stands a Jonathan tree, the solitary representative of an order for 200 trees of this variety, the other 199 having changed to a Ben Davis quality of apple called Russian Red. Now, if the Jonathan had originated in the land of the Czar, we might have assumed that it had reverted to some original Russian type; but the Jonathan is a good old apple of Yankee origin and name, and knows nothing about designs on Manchuria or Semitic troubles. Neither can I account for my Stark trees bearing little Winesaps, or one lot of Black Twigs producing Kings and a second order of same variety from a different variety from a different nursery insisting on growing Golden Sweets, Arkansas Blacks and other kinds whose presence in my orchard was never invited. Is it the soil, climate or some freak of nature that causes all these transformations?

I am certain that reputable nurserymen would not knowingly send out trees under an alias, or, when he is out of a variety ordered, substitute a different one.

**WEAK SORTS.**—There are certain valuable varieties such as the Newtown Pippin, Esopus and others constitutionally weak, lacking in hardiness, and, consequently, susceptible to disease. Is it chimerical to suggest that new blood can be infused into the most valuable varieties and hardiness increased? Plants, as well as animals, yield to persistent selection, and here is a most valuable work for the nurseryman and orchardist.

The State Board of Horticulture endeavors to inspect all importation of nursery stock and has condemned and burned entire carloads of diseased and badly infested trees, and it is gratifying to note that this summary action has had the effect of greatly improving foreign shipments.

The Pacific coast is especially adapted for growing strong, healthy trees, and there is scant reason for buying them elsewhere. The confusion of varieties in some instances has probably resulted from the carelessness of some growers who sell to large concerns, and there is little complaint from the nursery that sells only what it grows.

### The Tilton Apricot.

**TO THE EDITOR.**—I have sent another sample of the Tilton apricot. The fruit, I think, is a little smaller than it was last season; but it is a good complaint, as the trees, both old and young, are that much more heavily loaded with fruit. I have been to two different places to see them, and I have heard of others, and all are the same. If they are a little smaller, and have lots on, they had better be that way than to have none at all. J. W. BAIRSTOW.

Hanford.

The fruit is fine, good sized, clean, light colored, good flavored and evenly ripened. This new variety



is making a good record. Commenting on this variety, the Hanford Journal of last week says:

The Tilton apricot, a native product of this county, is proving its prolific and sure-bearing qualities again this year. The crops of this fruit are universally large again this year in the numerous orchards in Kings county where the Tilton 'cot trees have been set out. A. E. Knapp of Armona and P. B. Shirk, 2 miles northeast of Hanford, are among the number of orchardists who have the Tilton 'cot and who have good crops thereof this year. The original tree, from which cuttings were obtained and which is now seventeen years of age, has on it this year its fourteenth annual crop without a failure.

## THE STOCK YARD.

### A Texan's Notes on California.

Mr. H. T. Groom of Texas gives the Live Stock and Dairy Journal of Fresno an outline of his recent observations in this State: To a breeder accustomed to Buffalo grass ranges of the Panhandle of Texas, the fields of alfalfa and rye grass of California are a revelation. A trip over to alfalfa fields around Bakersfield, where thousands of steers are fattening for the San Francisco market, is a new chapter to the man who believes he has seen cattle under all sorts of conditions. It is not the magnitude of the business that impresses a stranger so much as the favorable conditions under which these cattle are handled. The rye grass lands along the Sacramento river are a still greater surprise to even a native of the famous "blue grass" region of Kentucky, where it requires three acres of the best land to carry a grown animal through the year. The most surprising thing, however, is that with such abundance of the class of feed necessary to produce the best type of beef animal, so few herds of registered cattle are to be found. California, with her climate, her feed and water, should procure the highest type of cattle to be found in the world, and instead of the Eastern States buying their fresh blood in England and in Scotland, they would certainly go to California. If the same attention was paid to registered cattle that has made the names of Palo Alto and Rancho del Paso a household word wherever the trotting or race horse is bred, these California Shorthorns would be far better known, for the number of people breeding cattle is greater than those engaged in breeding horses.

**INFLUENCE OF ENVIRONMENT.**—Environment has a great deal to do with the type of animal produced. The short herbage and long distance traveled to water make the Mexican cattle light-bodied and long-legged. The conditions in the Highlands of Scotland have made the Highland cattle peculiar to that section. The Jersey, a small animal at home, on the rich fields of a Kentucky blue grass pasture becomes over double as heavy-bodied. The Shorthorn is a native of the great grazing section of England. California has every advantage possessed by any other State or country, and, so far as the writer could judge, none of the disadvantages under which many of them labor.

To a casual observer the thrifty condition of the cattle on these green grass ranges is one of the first convictions he receives of the superb adaptability of California as a great cattle-breeding State. By cattle breeding, I do not mean to be satisfied with breeding common cattle, but with the production of cattle that will be prize winners in any show yard of the world, whether steers for the block, or bulls, cows and calves for breeding purposes. While the profit to be made in beef cattle in California is attractive to one accustomed to more severe conditions than are to be found there, it is the profit to be made in breeding cattle for breeding purposes that is the most attractive feature. With the proper effort, no section of the world could excel California in the production of cattle of a superior type.

**SHORTHORN SALES.**—In 1902 over 6000 registered Shorthorn cattle sold for an average of \$260 per head at public auction in the United States. The cattle imported from England and Scotland sold for an average of probably three times as much. What a field there is in California for the establishment of many herds of Shorthorns! The writer was so much impressed with the advantages California possessed, the money to be made from a conservative investment in a carefully selected herd of Shorthorns, that he called the attention of several prominent men to this undeveloped field of California resources, and hopes the "leaven of the value of Shorthorns" to California will yet make itself felt with them.

**CALIFORNIA HERDS.**—Mr. Johnson, on Staley island of San Joaquin county, has a small choice herd of registered Shorthorn cattle; the calves show a decided improvement over their dams. From the rye grass pastures under his control some superb animals may be expected, that will do honor both to him as a careful breeder and to California as an unequalled place for breeding Shorthorns.

At an early date the writer hopes to return to

California and visit other herds of registered Shorthorns in the State. In fact, so attractive is California as a breeding State, he would be glad if it were possible to transfer his interests to some of the alfalfa or rye grass ranges of that highly favored State. There are men in California who would give thousands of dollars if the honors of winning the cattle prizes in St. Louis in 1904 could come to their State; it is too late for that now; but there will be other shows, and with the proper effort it will be an easy matter for the Pacific coast to carry off more than its share of prizes at all the leading Eastern fairs. It is to be hoped that some of the progressive men of ample means will take this matter up and bring to California, through fine cattle, as much glory as Mr. Stanford did through standard trotting horses and Mr. Haggin is doing through thoroughbreds. Cattle would really benefit the State more than the horses, for a good Shorthorn produces the milk and butter for the family and turns off a calf that should go to the block at eighteen months old, weighing from 1300 to 1500 pounds.

### Cattle Scarce on This Coast.

That California does not produce anything like the amount of beef used for home consumption is evident by the fact of our butchers being compelled to look to outside States for a good part of their supply. The Live Stock and Dairy Journal says that numerous shipments of range fat cattle have been made to Los Angeles not only from Arizona, New Mexico and the Republic of Mexico, but several thousand of cotton-seed fed cattle have been shipped to both Los Angeles and San Francisco. During May the firm of Frye, Bruhne & Co., the largest packing concern of the Northwest, purchased some 2500 cotton-seed fed cattle for shipment to Seattle, Wash. One shipment of these cattle was started, but owing to quarantine regulations they were compelled to abandon the project and sell the cattle at Kansas City. The cattle came from south of the United States quarantine line, and were infested with Southern cattle tick; and as the States through which they must necessarily pass en route to destination had no quarantine pens or provisions for handling "Southern cattle," they were compelled to either ship cattle from above the quarantine line or not at all.

The Texas cattle were purchased conditional on whether they could be shipped through or not, consequently the Frye-Bruhne people did not sustain any great losses from their inability to do so. Their buyer, Mr. Kennedy, is now in California looking for fat cattle; but as the available supply is limited, and probably most of it already contracted for by local butchers, we do not believe he will be able to get what he wants.

### Breeding for Color in Shorthorns.

Director E. W. Howard of the State Agricultural Society, one of the largest breeders of Shorthorn cattle in the State, in response to a question by a Sacramento Union reporter as to whether or not breeders are moving toward solid colors of late, said: "The tendency of most of the breeders is to breed to red, but I do not think it a wise one, as it necessarily restricts the stock from which to breed. In England they breed largely to roans and many magnificent specimens are produced. Last year I brought up a couple of roans in my exhibit, just to show my independence. I had no idea either of them would win a prize, and pinned my faith on a red that I considered the best in the herd. To my astonishment Professor Carlyle placed him third, placing both the roans before him. I did not agree with him, but he went over them point by point and convinced me that he was right. He was not only a most competent judge, but he had the faculty of imparting instruction, and, what is generally difficult to do, would convince you that you were wrong. I am going to bring up a lot of roans for exhibition this year."

## FORESTRY.

### Forest Investigations.

A. F. Potter and R. B. Wilson of the U. S. Bureau of Forestry, and W. C. Hodge, representing Gifford Pinchot, head of the U. S. Bureau of Forestry, held a consultation with the secretary of the State Board of Examiners at Sacramento on Monday regarding the proposed joint investigation of the State's forest resources on the part of the Federal and State authorities, with the result that an agreement was reached whereby the work will proceed.

The work as outlined, says the Sacramento Union, will consist of the formulating of a complete report and a thorough examination of the forestry conditions throughout the northern portion of the State, with a view of establishing a forestry system for California.

The various features that will be included in the report are as follows: A map of the State showing the distribution of forest and brush cover, and a description of the various types of forest and brush lands, as to their composition and condition. Also, a study of lumbering of the more important commer-

cial trees in the different types of forest and its effect on the forest; a study of forest fires, their effect on the forest and the most available means of prevention; a study of market conditions of the more important commercial trees; a study of the question of reforestation; a plan for the administration of State forest lands; a study of present forest laws and recommendations concerning their revision.

The report, when completed, will be filed with the State Board of Examiners.

### A Ten Days' School of Forestry.

Under the auspices of the University of California, there will be held at Idyllwild, San Jacinto mountain, Riverside county, Cal., a School of Forestry, with topics and instructions as here given:

1. "Life History of a Tree." Dr. Jepson. Four lectures on the activities, structure and methods of reproduction of a typical forest tree.
2. "Classification of Forest Trees." Dr. Jepson. Three lectures on the classes of forest trees and their salient peculiarities.
3. "Forests of California." Dr. Jepson. Three lectures on the forest region of California, their composition and relation to altitude, rainfalls and temperature.
4. "The Practice of Forestry." Prof. Stubenrauch. Four lectures on the general principles and fundamentals of forestry.
5. "Silviculture." Prof. Stubenrauch. Four lectures on silviculture methods, natural and artificial regeneration of forests, propagation, planting and thinning.
6. "Afforestation and Reforestation." Prof. Stubenrauch. Two lectures on the treatment of barren or cut-over areas, with special reference to conditions in California.

**FEE.**—The tuition fee will be \$6. The payment of this entitles the student to admission to all of the lectures and to join in all field work of the class. Further information concerning the work and the means of reaching Idyllwild on San Jacinto mountain, can be had from the Recorder of the Faculties, University of California, Berkeley, Cal.

## THE FIELD.

### Nebraska Data on Alfalfa.

The Nebraska Agricultural Experiment Station has just issued a bulletin giving deductions from a large amount of information secured from alfalfa growers of that State. During the winter of 1902 a list of between 600 and 700 successful alfalfa growers in this State was collected and to each was sent a report blank calling for a definite statement regarding a number of processes he employed in obtaining his stand of alfalfa and also regarding his subsequent care of the crop. More than 500 satisfactory replies were received, representing eighty counties in the State. A study of these reports gives some valuable information respecting alfalfa culture.

There were 228 stands reported on upland and 273 on bottom land. Even in the western portion of the State the amount of alfalfa on the upland is shown to be considerable and very satisfactory results are evidently obtained, although naturally the yields of hay are smaller than on the bottom lands of that region. In the eastern part of the State somewhat heavier yields appear to be obtained from bottom land, but loss from winter killing or other cause is greater. Twenty-three reports state that upland is more satisfactory than bottom land. These come principally from the eastern portion of the State or the irrigated land of the western portion.

An astonishing feature of the replies is the large amount of alfalfa that they show to be growing on land with clay subsoil. Sandy clay, clay loam and clay and lime were not counted as clay. In spite of this limitation 245 clay or gumbo subsoils are reported. A clay or even a gumbo subsoil does not appear to be a barrier to successful alfalfa culture.

**SEEDING.**—The seed-bed was prepared by plowing and further working in 373 cases and by disking or cultivating in seventy-five. Among the latter is one method that appears to be popular and satisfactory. This consists in thoroughly disking corn land after all trash has been removed from the field. In the western part of the State there are a number of good stands of alfalfa obtained by breaking prairie sod, disking it and harrowing in the seed; also by disking the unbroken sod and harrowing in the seed. The latter commends itself as an easy way of supplementing the native grasses in pastures. The tendency to dispense with plowing on unirrigated land increases with the distance westward from the Missouri.

A study of the dates of sowing alfalfa seed in the spring shows a range from early March to late June, although where advice was volunteered it was practically unanimous in favor of early sowing. There were only eight reports of summer or fall sowing, of which one was sown in July, four in August and three in September.

In 108 cases a nurse-crop was used, while in 393



cases the alfalfa seed was sown without that of any other crop. The use of the nurse-crop was largely confined to extreme eastern Nebraska and the irrigated land of the west. Many growers who used a nurse-crop say they would not do so again. It has been recommended to use a light seeding of small grain, sown earlier or with the alfalfa, to prevent damage by severe winds. When sown in this way the nurse-crop is mown when 8 or 10 inches high to prevent it smothering the alfalfa.

In fifty-five cases the seed was put in with a drill and in 447 cases it was sown broadcast. This is at least an indication that if a drill is not available a satisfactory stand can be obtained by broadcasting and harrowing in, provided the other conditions are favorable.

There were 138 reports of less than twenty pounds of seed per acre being used and 336 reports of twenty pounds or more being sown. The evidence seems to be in favor of the use of at least twenty pounds of seed per acre.

**HAYING.**—Of the farmers replying to the inquiries, 221 have stands of alfalfa that yield more than four tons of cured hay per acre each season, while 157 do not get as much as four tons of hay per acre.

Of persons having practiced disking alfalfa in the spring or at other times 138 report that beneficial results have been obtained, while seven report that disking has been ineffective or injurious. By disking alfalfa is meant going over it in the spring with a disk harrow before growth starts or during summer immediately cutting for hay. It is customary to set the disks at a slight angle. This cuts the crown root and stirs the soil. Some of the correspondents prefer harrowing to disking. Where positive objection was made to disking it was based on the claim that it caused the crowns to become diseased. The great bulk of the evidence was, however, in favor of disking.

Of the persons who have manured alfalfa, either by plowing in the manure immediately before seeding or spreading it on the field after a stand had been secured, 110 obtained beneficial results and thirteen found it to be effective or injurious. Objections are based on the claim that plowing in manure causes the soil to dry out, but objections to spreading manure on alfalfa are rather indefinite in their nature, except that on low land it makes the growth too rank and the alfalfa falls down. Many of those who advocate its use specify that the manure should be rotted and fine. One man suggests harrowing after spreading to fine it. The reports of beneficial results from plowing under manure come largely from the eastern portion of the State, but the use of fine manure applied as a top dressing has proved beneficial in all parts.

## ARBORICULTURE.

### The University Eucalyptus Groves at Santa Monica.

By MR. C. H. SHINN in Bulletin 147 of the University Station.

The plantations of eucalyptus trees at this substation have deservedly attracted much attention for some years past. They have been visited by many persons and reported upon in many forms. Mr. Abbot Kinney's work on eucalypts contains photographs of single trees here, together with notes upon their growth, etc. Professor McClatchie has also taken many notes and photographs here. Former station reports contain much historical and descriptive material on these eucalypts.

A few of the large trees in the main group have died or have been blown down. These losses seem to have been due in every case to poor root systems, pot-bound or too large trees having been originally used. The younger plantations show no such defects. Others of the older trees will soon have to be removed, but specimens of all the species represented in this grove are now established elsewhere. The following table shows some of the measurements taken in this, the oldest grove of eucalypts, in June, 1902:

	Height, feet.	Girth, inches.
<i>E. amygdalina</i> .....	23	21
<i>E. calophylla</i> .....	38	47
<i>E. citriodora</i> .....	61	35
<i>E. corymbosa</i> .....	36	32
<i>E. corynocalyx</i> .....	61	47
<i>E. diversicolor</i> .....	68	42
<i>E. viminalis</i> .....	53	44
<i>E. callosa</i> .....	32	15
<i>E. sideroxylon</i> .....	53	52

**EUCALYPTS ON THE UPPER MESA.**—The original planting of eucalypts, done on the upper mesa nearly 100 feet above the middle flat, was in the form of a narrow strip, chiefly on the western side, with a few rows across the south and north. This mesa is a long and very narrow tongue of land nearly level on the top, sloping south toward the ocean. On the east it descends almost perpendicularly to the canyon bottom; on the west the descent, less abrupt, is to the cottage mesa, or middle bench of the substation. The light, gravelly soil and the height and exposure of this plateau make the growth of trees difficult. Success here argues similar success on plateaus even farther inland.

The eucalypts planted here in 1889, thinned out in

1893 and 1894, and since then uncultivated, have made in many cases noble trees, with trunks that girth from 25 to 40 inches. Their growth has been lessened in recent years by light rainfall, as most of them stand within 60 feet of the edge of the mesa. In point of drought resistance *E. corynocalyx*, *E. rostrata*, *E. paniculata* and *E. globulus* are among the best.

The younger grove on the upper mesa was begun in the spring of 1897, when about 800 trees were set out, representing thirty-one species. Other trees have been added since. The soil is light and poor, especially toward the eastern end, and the older trees near by have lessened the growth of the outer row of the new plantation. Nevertheless the results of the experiment have been instructive and, on the whole, favorable.

The well-known blue gum, *E. globulus*, made much the strongest growth in this plantation, and most of the trees had to be cut out so as to give the more valuable species a chance.

The following table shows the comparative growth of the more promising species in this new plantation. All the trees were small, or from 10 to 15 inches high, when planted out in January, 1897. All were measured in May, 1902, when the age from seed was less than six years. This May measurement includes, of course, only a part of the 1902 growth. The trees selected are an average of the western half of the grove, which much better represents the entire mesa than the more gravelly eastern end.

EUCALYPTS IN MAY, 1902.

	Height, feet.	Girth, inches.
<i>E. globulus</i> .....	32	23
<i>E. acervula</i> .....	30	22
<i>E. muelleriana</i> .....	28	20
<i>E. rostrata</i> .....	27	20
<i>E. angulosa</i> .....	25	18
<i>E. andreaana</i> .....	25	17
<i>E. tereticornis</i> .....	23	19
<i>E. goniocalyx</i> .....	23	17
<i>E. populifolia</i> .....	22	15
<i>E. cosmophylla</i> .....	21	16
<i>E. Foeld-Bay</i> .....	21	14
<i>E. stuartiana</i> .....	20	16
<i>E. cinerea</i> .....	20	15
<i>E. acmenoides</i> .....	20	10
<i>E. paniculata</i> .....	18½	13
<i>E. re-inifera</i> .....	18½	13
<i>E. microcorys</i> .....	18½	12
<i>E. dicipiens</i> .....	16	12
<i>E. polyanthema</i> .....	16	10
<i>E. botryoides</i> .....	14	11
<i>E. jugalis</i> .....	13	10
<i>E. sideroxylon</i> .....	9	9

This table is very suggestive. In 1898 *E. goniocalyx* had made a better showing than the blue gums, but it now ranks eighth. Every species in this list which stands over 15 feet high at present (nineteen species in all) is well worth further trial and planting on a larger scale, for the average annual rainfall since these trees were set has been but 8.8 inches, and for the first three years it was less than 7 inches. The only water ever received by any of these trees was about a quart each when planted, that being a very dry year. In ordinary seasons—that is, in seasons of ten or more inches of rainfall—even this slight irrigation would not have been needed.

The growth of *E. acervula*, *E. muelleriana*, *E. rostrata* and a few others, as shown by the table, is especially striking. All the species listed in this table have made well-shaped trees. *E. cornuta*, *E. megacarpa*, *E. alpina* and a few others of shrubby growth have only a botanic value here, but among those which have made strong growth are some extremely valuable timber trees, such as *E. rostrata* and *E. muelleriana*.

**ENLARGEMENT OF COLLECTION.**—When the University took charge of the substation in 1893 there were forty-four species of eucalypts growing here, as nearly as could be determined by the Botany Department. Many of these were represented by only one or two specimens. At the present time there are something more than 100 species here, many of them represented by fifty or more specimens of different ages and on different soils. All of these new species have been grown from seed. Among the newer sorts are a number of hybrids, which prove most interesting in their rapid growth and their promise of future value to California. It is evident that crosses of the best eucalypts are likely to produce valuable results, giving possibly finer and more free blossoming, and hence greater value for ornament and as honey yielders, also better growth, more hardiness or other economic advantages.

Among all the newer species, however, none are more striking in appearance than *E. ficifolia*—by far the most brilliant, medium-sized tree of the family. In some respects even more graceful and ornamental is the famous *E. sideroxylon* var. *rosea*, a superb, quite hardy, drought-resisting species of much larger growth than *E. ficifolia*. Its dark, red-brown bark, bluish foliage and elegant, half-weeping branches give it a distinguished appearance in any collection, and the largest specimen at the substation (a plate of which, made in 1896, is herewith shown) has increased in size steadily since that date. Younger trees make good growth and bloom early. There is no more promising species for general ornamental planting in southern California. *E. calophylla*, which has been

widely planted, is a very showy species, but if *E. sideroxylon* var. *rosea* were more generally known it would probably take the lead.

The following periods of the eucalypts range over the entire year, and those who plant collections of these valuable trees never need be without blossoms. The following notes apply not only to Santa Monica, but also to the whole seacoast region south of Santa Barbara:

January and February—*Amygdalina*, *globulus*, *leucocylon*, *occidentalis*, *polyanthema*, *robusta*.

March and April—*Amygdalina*, *diversicolor*, *eugenioides*, *leucocylon* var. *rosea*, *marginata*, *mellodora*, *obliqua*.

May and June—*Citriodora*, *corynocalyx*, *diversicolor*, *eugenioides*, *gunni*, *obliqua*, *paniculata*, *rostrata*, *stuartiana*.

July and August—*Buprestium*, *calophylla*, *ficifolia*, *corynocalyx*, "Sewell's Red," *macrorhynchus*, etc.

September and October—*Alpina*, *calophylla*, *ficifolia*, *corymbosa*, *cornuta*, *lehmanni*, etc.

November and December—*Alpina*, *corymbosa*, *diversicolor*, *globulus*, *occidentalis*, *robusta*, *polyanthema*, *saligna*, etc.

## THE STATE FAIR.

### Promising Preparations for Stock Show.

State Fair Directors Burke, Howard and Whitaker, the committee on cattle, have been hard at work since last week and have issued an official announcement concerning the coming live stock show, which has many new points and is of wide interest:

In cattle classes, date of birth of each animal entered must be given. Ages will be computed from date of birth.

All animals shown over six (8) months of age must be registered in their respective herd books, and the certificate shown to the entry clerk. In this department all cows not having produced a calf for two years, and all bulls that have not a get in one year, are barred from competition.

After the present Fair of 1903, no bull over six years of age and no cow over twelve years of age will be allowed to enter or compete for premiums, either as an individual or member of a herd.

No sweepstakes award will be made in any class without competition, unless in cases of sufficient merit the board should determine otherwise upon the recommendation of the judges.

The American Shorthorn Breeders' Association will duplicate premiums offered on Shorthorn cattle, both in the open and State classes, under these conditions: No animal will be eligible to compete for any money offered by the American Shorthorn Breeders' Association, except the pedigree has been recorded or accepted for record on the books of the American Shorthorn Breeders' Association. This applies to both classes of Shorthorns.

No owner or any person interested in an animal will be allowed to hold any animal in the arena, nor enter the ring during the time the awarding committee is passing upon its merits.

Forage will not be supplied by the society, but, instead, the premiums have been greatly increased and prizes for entirely new classes formed.

The parades have been reduced from four to two—one in each week—and every breed must participate. No excuse.

Animals too sick to parade are not in a condition to show. Those too wild to be led should not be shown.

All bulls two years and over must be shown both in parade and ring, and must be led by strong, suitable bull poles.

Particular attention is called to the arrangement of the herd classes—allowing breeders with very small herds an opportunity to compete in all classes.

**NEW AWARDS.**—The committee has provided for a large number of new premiums, both for individuals of different ages in the different breeds, but also unique herd prizes. All stock breeders should send to Mr. Harry Lowden, acting secretary, Sacramento, and ask to receive the new list of premiums as soon as printed. Mr. Burke and his associates have done everything they could to make competition attractive and the result should be notable.

**JUDGES.**—The Sacramento Union announces the following judges: Professor H. E. Alvord, the head of the Dairy Bureau of the United States Government at Washington, will attend and pass on dairy products. Negotiations are in progress to have Professor W. E. Carlyle, who judged cattle here last fair time, return and perform that duty again. He not only gave decisions carefully, but he explained why he decided thus and so, and at the same time pointed out the weak lines in the breeding of the different competitors, and by summing up the different points illustrated the justice and soundness of his judgment.

Professor Major, of the University of California, and Professor Leroy Anderson, of the State Polytechnic School, are to be present and participate in awarding premiums. "That makes a quartet in the livestock department that is mighty hard to beat, and it will certainly draw crowds of stock growers," said Mr. Lowden, confidently.



## Agricultural Review.

### ALAMEDA.

**CROPS ABOUT AVERAGE.**—Oakland Enquirer: The crops in Livermore valley this year are about up to the average. The grape crop promises to be one of the heaviest ever known. There was also a very large acreage of hay cut this year, but while the yield is below the average the quality is most excellent. Barley heading is in progress, but wheat will not be ripe until very late. Much damage was done to the fruit crop by the unusually late frosts. The cherry crop was good, but the almond crop will be nearly everywhere small.

### BUTTE.

**CUTTING APRICOTS.**—Chico Enterprise: In the 300-foot cutting shed on the Bidwell ranch more than 200 cutters are engaged in preparing apricots for the dryers. Many tons of apricots are cut, put on the trays and on the drying yard each day. The season's crop is fair. The quality of the cured product is of high grade and is expected to command a good price.

### FRESNO.

**APRICOT CROP.**—Enterprise: The work of harvesting the apricot crop is well under headway and hundreds of women, girls and men are engaged. The orchards in the vicinity of Selma are well supplied with hands, but there is a great demand for women and girls to do the cutting. Over 100 women are at work on the Gartenlaub ranch, 4 miles north of town. At the Gartenlaub orchard harvesting the apricots commenced last week and it will last for several weeks longer—a run of perhaps five weeks and then work will commence on early peaches. Many of the smaller orchardists have already picked their apricots and report that the crop is exceptionally fine in quality, but lighter than last year.

### HUMBOLDT.

**A NEW INDUSTRY.**—Enterprise: The Excelsior Creamery Co. has made a contract with the Casein Co. of America to manufacture casein from skim milk. Very satisfactory letters from several large creameries in the New York and Elgin districts have been received by Mr. J. Nissen, secretary of the Excelsior Creamery Co., setting forth the advantages of casein making from a creamery standpoint, and the value of whey, the residue of casein, as a feed for hogs, etc. The process is very simple and rapid, consisting of heating the milk by blowing steam into the vat of skim milk, precipitating the casein with an acid, washing the resulting curd in cold water to remove the acid, pressing the curd to remove the water, breaking the cakes from the press by a curd mill and spreading the same on trays which are put into a dryer. The process is entirely free from odor or excessive heat which would in any way affect the butter.

### KERN.

**WHERE IRRIGATION PAYS.**—Delano Record: The barley in our window is from Frank Schlitz's place, and it is 3 feet from the roots to the top of the tallest blade. Mr. Schlitz has five acres like it. The land was irrigated last summer and the barley was sown early last fall. It has not been irrigated since, and evidently will make a heavy crop of hay without any further irrigation. The cost of fuel for this one irrigation was about 50 cents, and it would require a liberal estimate of the other expenses to bring the total cost to \$1.40 per acre. It is easy to see that if this barley yields only half a ton of hay per acre more than dry land the irrigation will prove a good investment.

### MONTEREY.

**CROP BETTER THAN EXPECTED.**—Salinas Index: In the Salinas valley harvesting is in full blast. To the surprise of many, crops will average fully a fourth more to the acreage than last year and in many places in the southern part of the county the yield will be good. It is reported that on the Cook ranch, near San Ardo, the harvesters cut seven acres of barley which averaged twenty-nine sacks to the acre. In this end of the valley the crop outlook is splendid, considering the absence of late rains, and the land in the lower end of the county under irrigation will bring forth abundance.

### NAPA.

**PROFITABLE FRUIT CROP.**—Register: Indications point to a good season this year for the fruit grower. Generally speaking the crops may not be as large as usual, but the unusual excellence of quality promised and the good prices paid, will more than make up for any deficiency in quantity.

### RIVERSIDE.

**BOUNTIFUL GRAIN HARVEST.**—Redlands Facts: A drive through the coun-

try south from Banning reveals a most pleasing state of affairs among the ranchers. Not for many years have the San Jacinto and the Winchester valleys had such a hountiful harvest of grain. In the Temecula valley headers and harvesters are being worked to their full capacity, while the Pala valley and the Pauma ranch, east from Pala, contain a large acreage of waving grain, ready for harvest. A striking feature is the unusual acreage of wheat and oats. Laborers are scarce and wages proportionately good.

### SAN JOAQUIN.

**MORE HAY THAN LAST YEAR.**—Stockton Independent: Receipts of hay here have been increasing at a fast rate the past week and feed is coming in by boat, barge, rail and team. Most of it is of splendid quality and finds a ready sale here. At present a large quantity of hay is piled up on the water front and the owners are only awaiting cars to send it to its destination. The railroads cannot give any assurance as to when they can supply the needed cars, as the floods in the East have tied up thousands of cars which should have been returned to the West two or three weeks ago. There will be far more hay this year than estimated three weeks ago, as a lot of grain which was expected to mature has failed and it is now being cut for hay. This is especially the case with late sown grain, but it will make good hay. Prices here are holding strong for this time of year.

### SHASTA.

**IRRIGATION, FRUIT AND ALFALFA.**—Anderson News: A big stream of water is being constantly pumped from the river by the 50 H. P. electric motor of the Northern California Power Co. at the plant near Anderson, and several of the farmers and fruit growers are using it, both on the orchard and alfalfa field, to good advantage.

### SONOMA.

**BIG CROPS FOR DRY YEAR.**—Petaluma Courier: The harvest is about over on the reclaimed tule lands bordering on Sonoma and Petaluma creeks in the southern part of the valley. Notwithstanding there was a very slight rainfall in April and none at all in May, the hay and oat crops on the reclaimed tule land ranches have turned out more than an average yield this season. On the Pacific Reclamation Co.'s ranch, below Schellville, the crops of both hay and oats are simply immense. It took over thirty-five hands nearly a month to harvest the crop on this ranch, which will amount to 3000 tons of hay and 5000 sacks of white oats. In places the hay crop has gone to five or six tons an acre.

**PRUNES FOR FRANCE.**—Santa Rosa Press-Democrat: Within the past week or two, seven carloads of prunes have been shipped from the warehouse of M. L. McDonald, Jr., to France. The prunes were all neatly packed in twelve-and-one-half-pound and twenty-five-pound kilo boxes, and left here in splendid condition.

**INCREASED CHERRY YIELD.**—Healdsburg Tribune: J. N. Wisecarver of the Heart's Desire orchard, finished picking cherries last week, which ended a very profitable season. Of the canning cherries (Royal Anns) he shipped fifteen tons this year, as compared with eleven and one-half tons last year. This increase Mr. Wisecarver believes is due to the work of bees pollinating, for which purpose he purchased a number of hives last fall. He picked about ten tons of black cherries this season. Mr. Wisecarver will build several storage reservoirs on his place this year, in order that he may be enabled to give his cherry orchard water at the times when the trees most need it. A stream flows through the place the year round. He will set out an additional tract of nine acres to cherries this season.

### STANISLAUS.

**HARVESTING BY TRACTION.**—News: H. Hughson went out to L. A. Richards' ranch Saturday to witness a novel experiment in grain harvesting—novel in this county, at least. It is said that the barley on the Richards ranch will run as high as forty sacks to the acre, and Saturday the work of cutting and threshing this immense yield started. The combined harvester is supplied with a gasoline engine for the purpose of furnishing power for the cutting and threshing, and the motive power for the harvester is a traction engine which was brought down from Stockton for the sole purpose of assisting in the harvesting of this grain. The stack of the engine is supplied with a spark arrester, which will do away with any possibility of fire in the field.

**PROFITS OF PIGS RAISED ON MILK AND ALFALFA.**—Newman Index: Chas. Stachlman was in town Wednesday with a load of porkers, and remarked that this lot was the third he had sold in twenty-two months from one sow and that he had another brood of eleven at home. Upon inquiry, we learned that out of the

first litter he raised ten and sold them for \$76.90. Out of the second litter he also raised ten, and to these he fed a ton of wheat. These netted him \$120. The third litter of sixteen he raised and sold thirteen. These brought in \$89.10, making a total of \$286, and he has at home the fourth litter of eleven pigs. Outside the ton of wheat fed the second litter, the pigs have all been fed on milk and alfalfa.

**HARVEST 963 BAGS OF BARLEY IN A DAY'S RUN.**—Modesto Herald: W. D. Toomes and his harvesting crew have raised the record for a day's run, which Henry Garrison lately placed at 954 sacks of barley. On Tuesday this crew turned out 963 sacks of barley on the old McKinney ranch, 4 miles north of Modesto, owned by O. McHenry and farmed by Toomes. The barley was very damp in the morning; so damp, indeed, that the harvester was not started until 8:05 o'clock, and even then the work was carried on under comparative difficulties until the moisture had been fully absorbed by the warmer atmosphere. The last sack was dumped just before the sun passed below the horizon. The barley is yielding 22 or 23 sacks to the acre, about 110 pounds to the sack.

**BARLEY WEIGHING 117 POUNDS.**—The best barley we have heard of to date, weight considered, is being turned out on James Kinnear's ranch on the West Side. It weighs 117 pounds to the sack. Mr. Kinnear has 200 acres of it and it is yielding an average of twenty sacks to the acre. He has already sold it for 97c per cental.

**PROFITS OF STANISLAUS ALFALFA.**—S. Garlinghouse, of Modesto, has six acres of 3-year-old alfalfa, just across the river on the Ceres side, about 1½ miles from Modesto, from which he has this year cut two crops, the both of which brought him \$92 in cash for hay sold, besides three loads he saved for himself. He will get three crops more this year, the third crop being well grown now.

### SUTTER.

**ERECTING IRRIGATING PLANTS.**—Independent: O. Moncur has been busy for the past month making tanks and putting in pumps for a number of irrigating plants in orchards near town. Peri Montana and James Littlejohn Jr. each have just finished their plants and are irrigating their trees. Milton Jones and Mr. Holtz at the Abbott orchard have each been supplied with irrigation facilities. A. F. Abbott is running his large pump with a little steam engine and finds the steam more satisfactory than gasoline. Mr. Moncur thinks it is only a matter of time when the majority of orchards in this county will be equipped for irrigating. A well 15 or 20 feet deep furnishes an abundance of water, and with cheap power every orchard of any size can well afford to irrigate with pumps.

**EXTERMINATING THE RED SPIDER.**—Yuba City Farmer: Prof. W. H. Volck and Prof. C. W. Woodworth of the State University, in company with R. C. Kells, horticultural commissioner of this county, made another trip to the McMillin almond orchard, near Sutter City, last Saturday, where Prof. Volck has been experimenting with remedies for the red spider. They found that the spray used had killed all the spiders and the trees were clean and healthy. The commissioners will see that the growers are supplied with formulas of the remedy by next season, so that all may use it.

**ALMOND GROWERS MEET.**—The almond growers' meeting at the courthouse last Saturday was well attended and it was decided to organize an association here. A committee consisting of H. C. Clark, B. F. Walton, Thomas Stafford and L. H. Woodworth was appointed to solicit members and prepare by-laws, etc. There are from thirty to forty almond growers in the county.

### TEHAMA.

**LARGE APRICOT CROP.**—Red Bluff News: There is a very large crop of apricots this year on the Doane orchard, the old Covall place, situated on the river about 6 miles south of town. A force of about forty people are engaged in gathering the crop and cutting it for drying, but more help is needed and on Thursday A. J. Gault was out in search of men to assist in the work. He secured some help, but not enough to bring the number up to sixty, the number desired.

**NEW FRUIT DRYING PLANT.**—Bee: The Stice & Gardner Co. will soon start work upon a large fruit drying and evaporating establishment in the Park Addition to Red Bluff. They have selected a natural depression on the plain, where the sun shines freely, and will level this off for a drying field. They will erect a drying house, bleaching house and a large evaporator. They expect to handle from 500 to 750 tons of fruit this season. The situation of this fruit drying establishment is such that labor to handle the crop will

be available from the immediate neighborhood. This is a great necessity at times. When the fruit is most abundant it is almost impossible to secure persons enough to handle it. But with this new establishment a fruit raiser has only to haul his fruit to town and it will be cured for him.

### TRINITY.

**SHEEP INVASION.**—Red Bluff Cause: Trinity collects a license tax of 5 cents per head per annum on all sheep within the county. It is estimated that the total number of sheep owned within the county does not exceed 5000, while the number of foreign sheep now on summer range will exceed 40,000. Sheriff and Tax Collector T. F. Bergin returned the other day from the Mad River region, where he collected license taxes on about 21,000 head of foreign sheep. He has since gone to the Buckeye country to collect the license tax on the 22,000 sheep now feeding on the public domain in that section. The majority of the owners of the invading army are residents of Tehama county, where feed is very short. Heretofore the total number of sheep ranged in Trinity county during the summer months would not exceed 15,000.

### TULARE.

**ORANGES DROPPING.**—The dropping of the oranges in the groves of the Tulare river foothill country is the cause of considerable comment. Of course, the citrus fruits, like the deciduous fruits, drop more or less each season, but this year it has been greater than usual. W. C. Talbot, who has had much experience in orange culture, states that the big drop is due to the fact that the weather was very changeable this spring. It will be remembered that it was unusually warm in April, which weather was followed by a cold spell and changes were the rule for several weeks. Mr. Talbot is of the opinion that there will be about half a crop of oranges in the district named.

**HEAVY HAY CROP.**—Orosi Offer: H. R. McGee, whose ranch is about ½ mile south of Orosi, cut this season 1½ acre of wheat grain for hay and stored the same in his barn. This barn is 20 feet wide and 32 feet in length, and the hay in it, which has had time to settle, is 12 feet in depth. It is a safe estimate to say that there are fourteen tons of hay in the barn, harvested from 1½ acre.

**MONEY IN ORANGES.**—Visalia Delta: A gentleman living near Lindsay, who desires his name kept from print, has 390 orange trees of the Valencia species that yielded him 2121 boxes of fruit this last season. For them he received over \$2 per box. There are 108 trees to the acre, which means about \$4500 for the product grown upon 3½ acres. Adjoining him is another orchard of 1100 trees that yielded 5000 boxes, for which the producer received over \$2 per box. These oranges are all of the Valencia variety.

**BIG PUMPING PLANT.**—Register: W. J. Browning, who has a ranch of 960 acres near Tipton, which is good soil but valueless without water to irrigate with, has a pumping plant that is wetting his farm in good shape and makes his operations profitable. His well is a 14 inch hole bored 82 feet deep, and 21 feet below the surface is a 10-inch centrifugal pump which pumps a flow equal to 144 miner's inches. The pump is run by a steam engine fitted for burning oil in the furnace of the boiler, but Mr. Browning has found it cheaper to burn weeds and straw. He estimates that off of one acre of the irrigated land he gets enough straw to pump water to irrigate two acres. His grain crop will be about fifteen sacks to the acre. He has 200 acres of alfalfa in good stand. Near the pumping plant is a reservoir that holds 350,000 gallons, which is used for furnishing water to his stock.

**FORTY THOUSAND TREES PLANTED.**—Porterville Messenger: Inspector George Dillon reports that thirty-nine carloads, or 32,500 trees, were shipped here from the southern part of the State and ten carloads, or 8000 trees, were received from Exeter, making a total 42,500 trees set out in the vicinity of Porterville this season. There has been 47,500 seed stock shipped in from the south, all of which will be huddled this fall and ready for the orchard next year. This makes it appear as though the orchard setting next spring would equal or excel the work this season. In one or two carloads of the trees received from the south, Mr. Dillon discovered the red spider in great abundance and he was rather reluctant about letting the trees be set, but he has kept close watch of the orchard and finds that the extreme hot weather of a few weeks ago completely obliterated all traces of the spider. During the season Mr. Dillon has inspected 144 orchards and states that to the presence of the vedalia, which he raised in his incubator and distributed broadcast without expense to the orchardist, is due the almost total destruction of the cushion scale.



## THE HOME CIRCLE.

### The Country Town.

It's common to sneer at the country town,  
With its quiet streets and its peaceful  
air,  
Where the little river meanders down  
To be lost in the broad, blue sea some-  
where  
As we who think we are wise are lost  
In the roaring city that, like the sea,  
Has its ebb and flow, with its millions  
tossed  
As bubbles robbed of identity.

There's fellowship in the country town,  
With its empty streets and its spreading  
trees,  
Where the country song birds warble  
down  
At maids as fair as man ever sees;  
Where the winds blow sweet from the  
fields near by,  
Where men know the names which their  
neighbors bear,  
Where a man is missed when he's gone to  
lie  
With the peaceful ones who have ceased  
to care.

There are joys out there in the country  
town  
That we of the city may never learn  
In the rush for money and for renown,  
Confronting strangers where'er we turn!  
Oh, wasn't God's world serene and fair  
In the country town ere we came away?  
And won't it be sweet to sleep out there,  
Far from the city's roar, some day?

—Chicago Record-Herald.

### Marjory's First Celebration.

"Are you going to buy torpedoes  
for me, Uncle Alec?" asked Robby.

"Yes," said Uncle Alec.

"Oh, goody! And pinwheels, and  
rockets, and fiery serpents, and Ro-  
man candles?" asked Robby, spinning  
around his uncle as though he were a  
pinwheel himself.

"Yes," laughed Uncle Alec.

"And little pistols and caps?"

"Yes."

"And teeny-tenny firecrackers,  
and middle-sized ones, and great big  
cannon ones?" asked Robby.

Uncle Alec opened his lips to say  
yes again, but a sorrowful little voice  
said: "Oh, Uncle Alec, Robby is a  
perfectly f'rocious boy. I wish you  
wouldn't buy such dreadful things."

"Pooh!" said Robby, and he put his  
hands in the pockets of his knicker-  
bockers and stood very straight; for  
he was seven, and brave, and Marjory  
was only five, and didn't like Fourth of  
July at all.

"I won't let 'em hurt you. I can  
keep care of you, Marjory," he said.  
"And you can hold my punk." Here  
he brought out a dilapidated piece  
from the recesses of his trousers  
pocket, a remnant from the last  
Fourth, which he handed to Marjory  
as a sort of earnest of bigger and bet-  
ter things to be expected in Uncle  
Alec's package.

"Yes; but I don't like to hear  
them," said Marjory, and though she  
was the dearest little girl in the whole  
world, she looked almost ready to cry.  
But when the time for buying the things  
came Marjory was quite ready to go,  
and when her uncle came home with his  
arms full of bundles Marjory said to  
her mama:

"Mama, Robby's bundles are full of  
awful things, and mine are full of nice  
things, and we are going to put them  
on the shelf and not look at them until  
Fourth of July."

On the day before the Fourth the  
postman brought a letter to Robby.

"Hurrah!" he shouted, after he  
had read it. "Grandma wants  
me to stay with her all the Fourth of  
July, and I can make as much noise as  
I want. Mama, may I go?"

Mama was glad to say yes, for Robby  
was never tired of shooting, and Mar-  
jory never seemed to get used to the  
noise, and cried so much the day was  
always a hard one for their mother.

When the happy morning came  
Robby was up before light, packing his  
treasures for the journey; and when  
Uncle Alec took him to the train all  
the passengers smiled when they saw  
such a small American with such a

large box going somewhere to cele-  
brate his independence.

"It's very sad without Robby,"  
moaned Marjory, at lunch time.

"Yes," said her mother, "but  
not nearly so sad as it was with him.  
I haven't heard you cry once to-day;  
and when nap time is over you know  
that you are to begin to celebrate."

How Marjory's eyes danced when  
she awoke from her nap and was  
dressed in her very prettiest dress!  
She went to the next house and invited  
all the little girls to come and see her  
"Fourth of July," and they came.  
She ran and took the packages from  
the shelf, and Uncle Alec came to help  
her.

Off came the papers—and what do  
you think she found?

Robby had taken her bundles and  
left his, and there on the floor lay  
strings and strings of tiny red fire-  
crackers, and middle-sized ones, and  
great, great cannon ones.

Marjory hid her face in her mama's  
lap and cried.

"I'm crying some for me," she  
sobbed, "but most for Robby. I just  
believe he'll die!"

"Well, put on your hat, pussykins,  
and we'll catch the 3 o'clock train and  
make him happy again," said Uncle  
Alec, who, in his long, black duster,  
had just come in from a trial drive of a  
new horse he was thinking of purchas-  
ing; and then Marjory was happy in-  
deed.

"Oh, you dear, dear, Uncle Alec!"  
cried Marjory, holding out her hands  
and running up to him. "Mama prom-  
ised to send word to the girls explain-  
ing everything."

They were soon walking down the  
village street toward grandma's house.  
They found grandma and grandpa, and  
John the man, and Kate the maid, all  
searching for a lost Robby.

"He ran to open his bundles in the  
kitchen, and we haven't seen him  
since, though we've called and called,"  
said grandma.

"He is under the bed, I think," said  
Marjory. "He goes there so people  
won't see him cry." And upstairs they  
all ran. Marjory looked, and there,  
far under grandma's bed, lay a sad, lit-  
tle curled-up bundle that was Robby.  
Nobody laughed when he crawled out,  
red and tear-stained, with his arms full  
of Marjory's packages, and he wiped  
his eyes very hard when no one was  
looking, and was soon as merry as the  
others.

"Ladies first," said Uncle Alec, as  
they went out on the lawn; and Robby  
laughed with the rest at the day fire-  
works as the queer cats and pigs and  
funny mandarins went floating up and  
away. They pulled the crackers, and  
every one had a gay cap to wear, while  
the very nicest of candy came from the  
boxes that looked just like firecrackers.

Then came Robby's turn. How the  
torpedoes and the pistols snapped, and  
the firecrackers roared, and the great,  
great ones boomed like cannons! Mar-  
jory sat on Uncle Alec's knee, and  
never cried at all, but laughed and  
shouted, "Wasn't that a fine one,  
Robby?" And nobody but Uncle Alec  
knew how she trembled, and how very  
brave she was.

When the dark came Robby shot off  
his fireworks. Finally there was just  
one thing left—the biggest, reddest  
cracker of them all—and Marjory said  
in a faint little voice, "Let me light  
it."

"You wouldn't dare," said Robby.

"I don't dare, but I'm going to,"  
said Marjory and she grasped Robby's  
hand, oh so tightly! and ran, and lighted  
it, and was back in an instant on Uncle  
Alec's knee.

"Bravo!" they all cried, and  
"boom" said the big cracker, and  
Fourth of July was over.—A. L. Sykes  
in July St. Nicholas.

Seedsman—"You know, ma'am, you  
don't have to plant your potatoes  
whole; you can cut them up in small  
pieces." Mrs. Newmarket—"Yes; I  
know; that might do very well if we  
always wanted to raise potatoes for  
Lyonnais or for mashing; but we should  
probably desire to have potatoes  
served whole, now and then."

### Some Axioms and a Few Rules.

We read suggestions for keeping hus-  
bands home nights, ranging from poker  
to donkey parties; but, believe me, the  
only way to keep a husband home  
nights, to keep his faith fast whether  
he be with you or elsewhere, is to begin,  
not at the outer edge of the problem,  
but at its foundation. Know the char-  
acter of the man with whom you have  
to deal, and no word or deed of good  
intent can fail to hit the mark. No  
rule applies to two individuals with the  
same result. Parlor games might in-  
spire one man with domestic fever and  
drive another to drink. There are a  
few rules, however, which may be re-  
garded as standard. With tactful ma-  
nipulation they may be applied with  
more or less telling force upon the most  
stubborn cases.

Don't make the evening repast a con-  
fessional for household troubles. He  
has troubles of his own. You may be  
one of them.

Don't be the last to acknowledge his  
merits. Men love flattery as women do  
finery.

Don't put him on the fire-escape to  
smoke. Suppose the draperies do get  
full of the fumes. Some day you may be  
hungry for the smell of them.

Don't wear a chip on your shoulder.  
An ounce of forgiveness is worth a  
pound of pride. Give in. You can have  
your way when he is not looking.

Don't be ashamed to proclaim your  
love for him. Tell him often, and de-  
mand a response. It gives him some-  
thing to think about.

Don't antagonize his men friends.  
They may be better than they look.

Don't travel wide apart or the chains  
will cut. The only way not to feel them  
is to keep close together.

Don't cook unless you know how.  
When his digestion goes, reform admin-  
istration is dead.

Don't ask him for money; make him  
offer it. You know the way. If you do  
not, you should. Something in man's  
constitutional makeup rebels when he  
is asked to part with his money. Men  
shirk the things that are expected of  
them; but they will give freely of time,  
money and labor when accredited with  
not only the thing done but the impulse  
that prompts it. Men are generous  
enough, but they like large portions of  
glory.

Be prudent, and as thrifty as you  
can. Men are attracted by ethereal  
means, but held by material methods.  
Wise economy, however, requires great  
tact. There is no economy in that  
course which leaves your linens limp,  
your personality shoddy or your home  
regime conducted on poorhouse rations.

Put these rules into practice: Don't  
listen to outside criticism, whether of  
friends or relatives-in-law.

Don't attach too much importance to  
those little tiffs which may be the result  
of outside worries or indigestion. Make  
allowances for his being human. Give  
him the benefit of every doubt. If you  
put a pint man in a quart measure, he  
will grow up to it.

Don't condemn these rules the first  
time they fail. They are good. The  
only question is, Are we good enough to  
persevere with them until we get re-  
sults?

Perhaps we have not used these  
means for years, and they may not be im-  
mediately understood; but even chronic  
cases must yield to them in time.

Let's begin to court him "all new  
from the beginning." Let's blot out  
the ugly interim of cruel words and acts,  
and offer him wholesome good-fellow-  
ship. Let's have a talk, and pledge  
ourselves to keep the peace until we  
come to an understanding. And then  
let's away with false pride that has  
gained us no end but to widen the  
breach, and drag a net for him, as we  
did in the pre-nuptial days when we  
wore our best gowns, and bore our best  
temper, and said tender things that  
scattered the cause of dispute.

Suppose he is in the wrong—we prom-  
ised to help bear his burdens: why not  
share his fault with him? There is all  
the world against us on the other side  
of the front door: let's fight to win.  
The ammunition may be costly, but  
the spoils will compensate.—Collier's.

### The Early Morning Air.

Most people at some time in their  
lives probably have risen early enough  
to experience the bracing effect given  
by filling the lungs while dew is still on  
the grass. So far as analysis goes, the  
composition of early morning air is not  
different from that of air at any other  
time. It is well to remember, how-  
ever, that during the passing of night  
to day and of day to night several  
physical changes take place. There is  
a fall of temperature at sunset and a  
rise again at dawn, and consequently  
moisture is alternately being thrown  
out and taken up again, and it is well  
known that change of state is accom-  
panied by electrical phenomena and  
certain chemical manifestations also.  
The formation of dew has probably,  
therefore, far more profound effects  
than merely the moistening of objects  
with water.

Dew is vitalizing not entirely because  
it is water, but because it possesses an  
invigorating action due partly, at any  
rate, to the fact that it is saturated  
with oxygen, and it has been stated  
that during its formation peroxide of  
hydrogen and some ozone are devel-  
oped. It is not improbable that the  
peculiarly attractive and refreshing  
quality which marks the early morning  
air has its origin in this way.

Certain it is that the bracing prop-  
erty of the early morning air wears off  
as the day advances; and it is easy  
to conceive that the loss of freshness is  
due to the oxygen, ozone or peroxide of  
hydrogen (whichever it may be) being  
used up.

The difficulty of inducing grass to  
flourish under a tree in full leaf is well  
known and is generally explained by  
saying that the tree absorbs the nour-  
ishing constituents of the soil or that it  
keeps the sunlight away from the  
grass and protects it from rain. It is  
doubtful whether any of these explana-  
tions is true, the real reason most  
probably being that the vitalizing dew  
cannot form upon the grass under a  
tree, whereas, as a rule, both rain and  
light can reach it.

Dew is probably essential to the well-  
being of both plants and animals to a  
greater extent than is known.—N. Y.  
Journal.

### Ventilation in the Hat.

"Some customers have nonsensical  
notions about the proper way to venti-  
late a hat," said a fashionable hatter.  
"In fact, they are so whimsical about  
it that we make the hats without a  
ventilator and try to suit the wishes of  
the customer after he has handed his  
money to the salesman. Many custom-  
ers will not have a hat ventilated at all.  
Well, they miss a great deal of comfort  
and take long chances for baldness in  
old age. The English style—and the  
only one some buyers will adopt—is a  
ring of perforated holes in the crown  
of the hat. In my opinion it is just as  
well to have no ventilator at all as to  
put it there. The best way is to have  
two holes, one on each side of the hat,  
just above the band. Then you get  
good circulation all the time. There  
are ways of punching the holes artis-  
tically so that they do not detract from  
the appearance of the hat. But you  
would be surprised at the number of  
men who will not have them, some be-  
cause it is not fashionable and others  
because they think the hat will not wear  
so well."—New York Times.

### Clerk at the Speaker's Desk.

The Speaker's right-hand man is  
called "clerk at the Speaker's desk,"  
and is one of the most useful men in the  
House of Representatives. It is his busi-  
ness to know things—all things—in  
fact, everything connected with legisla-  
tion. He must know parliamentary  
law, precedents of the House, and must  
have them ready at a second's notice,  
so that they may be cited by the  
Speaker or the chairman of the com-  
mittee of the whole house whenever a  
point of order is raised or a parlia-  
mentary point is to be decided. He  
must know all the members of the  
House and from what State they come,



in order to tell the Speaker or the chairman how to recognize them when they address the presiding officer. He must know all the secretaries of the President and clerks of the Senate, so as to tell the presiding officer when there is a message from the President or the Senate to be received by the House. He keeps the time on men who are addressing the House, and the "hammer" falls when he says that a man has consumed his allotted time. Of all these tasks the greatest is to be well informed upon parliamentary law. There is no index to parliamentary rulings, and many points are found by the man who will delve and dig and study the subject all the time.

#### Polly's Fourth.

Polly was a middle-aged parrot whose early days had been spent in the green forests of Yucatan in Central America. I had long tried to teach Polly to speak, and had taught her to say a few short sentences. About eight weeks before the Fourth of July I tried to teach Polly to say, "Hurrah for George Washington." But she would not repeat it after me. Then I thought it might be too long to say it all at once—that she probably could not remember it all, so I tried to teach her to say it word for word. But no; she wouldn't say a word of it.

Yet she listened attentively when I repeated it. Then I got disgusted and gave it up till a week or so before the Fourth; then I tried to make her say it, but she would not listen to me now. So when the morning of the Fourth came I went out to Polly. She said, "Hello." I answered, "Hello, Polly; can't you say 'Hurrah for George Washington' for me?" Then she became furious and flew to the other side of her cage and would not look at me, so I finished feeding her. I went into my room and got my fire crackers, went outside, and was shooting my fireworks away when mother called to come in for luncheon. After luncheon I had to stay in the yard, so I went and got Polly and hung her up on the veranda, put up the hammock and was reading St. Nicholas, when along the street comes the street band playing "Star Spangled Banner."

Then all of a sudden Polly becomes restless and cries as loud as she can, "Hurrah for George Washington!"—July St. Nicholas.

#### Chinese Contrasts.

We bake bread; in China they steam it.

We divide the day into twenty-four hours; they into twelve.

We locate intellect in the brain; they locate it in the stomach.

Our calendar is based on solar time; theirs is based on lunar time.

With us the seat of honor is on the right; with them it is on the left.

Our given name precedes the surname; theirs follow the surname.

The needle of our compass points to the north; theirs to the south.

We have standard weights and measures; their weights and measures differ in each district.

Our children stand facing the teacher to recite their lessons; theirs turn their backs to the teacher.

Our watchmen quietly go their rounds with a view to catching thieves; theirs beat gongs and yell to frighten them away.

We bury our dead a few days after their decease; they often keep theirs in the house in heavy, sealed coffins for years.

#### The Tools of the Egyptians.

The ancient Egyptians had tools for stone working equal to anything in use to-day. They used both solid and tubular drills and straight and circular saws. The drills were set with jewels, probably corundum, and even lathe tools had such cutting edges. So remarkable was the quality of the tubular drills, it is said, and the skill of the workmen that the cutting marks in the hard granite gave no indication of the wear of the tool, while a cut of a tenth

part of an inch was made in the hardest rock at each revolution, and a hole through both the hardest and softest material was bored perfectly smooth and uniform throughout. Of the material and method of making the tools nothing is known.

#### Bavarian Creams.

Bavarian creams are wholesome, easily made and most easily varied. The proportions usually remain the same—that is, half a box of gelatine will solidify one quart of liquid, this being all cream, or part cream and part milk, or part cream and part fruit juice. The amount of sugar depends upon the other materials used, as the sugar will be less for a peach Bavarian cream than for one made of coffee. The method of putting together is simple and easy. The gelatine should be covered with cold water, in the same proportion—that is, for half a box of gelatine take one-half cup of cold water; for one-fourth of a box of gelatine use one-fourth of a cup of cold water, and so on. Either one-fourth or one-half of a box of gelatine should soak in this cold water for a half hour; a whole box of gelatine covered with a cup of cold water should stand an hour, and it cannot be hurried by heat. Gelatine put in hot water will make good glue, but will not dissolve unless covered with cold water. It should be dissolved over hot water, after it has stood a sufficiently long time to absorb the cold water and become soluble. If fresh fruits are used they must be stewed and sweetened; if canned or preserved, all that is needed is to press them through a sieve. Whip the cream, adding a pinch of salt. Add the gelatine to the fruit which has been pressed through the sieve, and put where the mixture will cool. Stir, and when it begins to thicken add the whipped cream. Stir from the bottom toward the top, until when a spoonful is turned on top it somewhat keeps its shape. This shows that the cream is sufficiently solid to keep together, and not separate into fruit juice and cream, molded in layers. When a part of the cream is whipped and a part used without whipping, the latter should be scalded and the sugar added to that. It is possible to make delicious creams with part milk and eggs and part cream, solidified with the gelatine. Any one with ingenuity should be able to vary these to suit themselves and the exigencies of the larder. In this way small amounts of fruit, jelly, etc., may be utilized.—New York Tribune.

#### Hints to Housekeepers.

Never frame a black and white picture—not even a photograph—in high-colored mats. Black, white or gray is the only suitable color.

Cream cheese mixed with olives makes a savory sandwich mixture, with brown or entire wheat bread. Stone—then chop—the olives, blending them and the cheese with a silver spoon.

A variation of cold corned beef is welcomed for the luncheon or supper table. Cut the beef into rather small, even pieces and sprinkle lightly with freshly grated horseradish. Mix with about one-third the quantity of cold boiled potatoes cut into cubes, and toss with a French dressing. Serve on lettuce leaves.

Rice may be cooked with cheese, making a dish equal to macaroni. Boil and drain the rice and place it in a buttered baking dish in alternate layers with grated cheese. Sprinkle the top thickly with breadcrumbs, dot with butter, moisten with milk, and bake in a quick oven.

Strawberry vinegar may be made of small and imperfect fruit, but the berries should, of course, be picked over with care. To four quarts of berries allow three quarts of white wine vinegar. Pour the vinegar over the berries, cover, and let stand for several days. Strain and add a pint of sugar to each quart of vinegar. Let it come to a boil, skim, and bottle. Be sure that the bottles are tightly corked.

This is an old-fashioned drink, and a truly delightful one.

A sure cure for indigestion, according to Medical Talk, is to lie on the left side for fifteen or twenty minutes. The explanation is that lying on the left side "crowds the stomach." This lessens the capacity of the stomach and forces the gas up through the œsophagus. This will frequently bring relief. After the gas has been all forced out of the stomach one can generally roll over on his back or right side, the jounal continues, and go to sleep.

To braise a leg of mutton, have the bone removed. Tie the meat into shape and place it in a large stewpan with two ounces of butter or clarified beef drippings. When it is evenly browned add enough beef stock to half cover it, two onions, a turnip, two carrots, a bunch of parsley, twenty-four peppers, two cloves and a blade of mace. See that the vegetables are cut in slices. Put the lid on the braising kettle and after the meat has been slowly braising for an hour and a half turn it. When it is done skim off the fat. Add a tablespoonful of tomato catsup and a few drops of tarragon vinegar, some salt and enough Parisian sauce to make it a rich brown in color. Take up the meat and garnish it with Jerusalem artichokes and Brussels sprouts. Strain the gravy and serve it in a gravy boat with the mutton.

#### Domestic Hints.

**PINEAPPLE LEMONADE.**—Pare, eye and grate a large, ripe pineapple; add the strained juice of four lemons, and a syrup made by boiling together for five minutes four cupfuls of sugar and two cupfuls of water. When cold, add one quart of water; strain and ice.

**FRIED CALF'S LIVER, ITALIAN STYLE.**—Chop or slice an onion and fry in a little oil. Lift out the onion, roll slices of calf's liver in flour and fry till brown and quite done. Take out the liver; thicken with brown flour the oil in the frying-pan, adding some chopped olives to it, and pour over the liver.

**GRAPE SHRUB.**—Crush the grapes, put them in a stone jar, and cover with good cider vinegar; then cover the jar tightly. Press and stir the grapes frequently, allowing them to stand for three days. Then strain two or three times through folded cheesecloth, and to every three quarts of juice add five pounds of sugar. Stir until the sugar is all dissolved, let come to a boil, skim carefully, and bottle while hot.

**TURKISH RICE.**—A cupful of rice, one of strained tomato, two of cold water, two tablespoonfuls of butter, one teaspoonful of salt and two ounces of finely chopped ham are the ingredients required. After washing the rice in three waters put it into the stewpan with other materials and set upon the stove. When the dish begins to boil put the stewpan back where its contents will hardly simmer during the next forty minutes. At serving time put the rice into a warm dish. Do not use a spoon in making this transfer, as that would be likely to break the grains and mar the appearance of the dish. Turkish rice is nice for serving with cold meat or fish or warmed-over meat.

**OKRA SOUP.**—This is a palatable and substantial soup. It is made of a quart of okra, a fowl, a quarter of a pound of salt pork, half a can of tomato, an onion, two generous quarts of boiling water, four tablespoonfuls of flour, two generous tablespoonfuls of butter, three teaspoonfuls of salt and half a teaspoonful of pepper. The tomato is not absolutely indispensable. Wash the fowl, and cut it into joints and other pieces convenient to handle. Slice the pork, fry it brown; then remove it, and put the meat into the fat. Fry until brown, and then put into a soup pot. Wash the okra carefully, and cut it in slices. Cut the onion fine, and cook it in the frying-pan for two minutes; then put in the okra, and after cooking for ten minutes transfer it to the soup pot. Put the butter and flour into the frying-pan and stir until brown. Pour two quarts of boiling water into the soup-pot, and then stir in the browned

flour. Add the tomato and seasoning, and after covering the soup let it simmer for two hours and a half. At the end of that time remove the bones of the fowl, and serve the soup without straining.

#### Humorous.

Wigg—Have you known Harduppe long? Wagg—No; he's been short ever since I have known him.

"So you have decided to get another physician?" "I have," answered Mrs. Cumrox. "The idea of his prescribing flaxseed tea and mustard plasters for people as rich as we are."

"Yes, the Newriches' reception after the horse show the other night was very select. There were only two common people there." "Who were they?" "Mr. and Mrs. Newriches."

Mrs. Gwem—"How does it happen that you are out of work?" Dusty Rhodes—"I belonged to de labor union; den I joined de employers' union, and I'm out on a strike against myself both ways."

"Are your relations friendly toward the defendant?" asked the lawyer who was doing a cross-examination stunt. "All but my mother-in-law," replied the man in the box. "She ain't friendly with anybody."

Benevolent Old Lady (outside of candy shop)—"Don't cry, little boy; come in here, and I'll buy you a stick of candy." Small Urchin—"Tanks; dat's wot me mudder made me cry for. She keeps de store."

Farmer Horniband (reading the markets)—"Pity the President didn't hev no more luck when he was a-huntin' down there in Mississipp." Mrs. Horniband—"Why, Silas?" Farmer Horniband—"Hain't you been a-readin' how the bears is playin' smash with the cotton crop?"

Visitor—So you were shipwrecked and came near starving? Mariner—Yes, mum, and I had to eat a whisk broom and the sawdust out of a cushion. Visitor—It must have been a terrible dose. Mariner—Not so bad, mum. You see I had been used to eating health foods."

"Speaking of bad falls," remarked Joggers, "I fell out of a window once, and the sensation was terrible. During my transit through the air I really believe I thought of every mean act I ever committed in my life." "H'm!" growled Jiggers, "you must have fallen an awful distance."

"JOHN, when you came home last night you talked and acted very queerly. You were lifting up your feet and endeavoring to step over imaginary obstacles." "Oh! Yes, my dear. All the evening I felt as if I were walking on clouds. You remember we had angel cake for supper."

"What does your husband think of these people who go in so much for symbols?" asked Mrs. Oldcastle, as she took a seat in the magnificent library. "Well, I don't know exactly," replied her hostess, "but it always seemed to me as though Josiah kind of liked the clarinet best, or else that horn they pull in and out so fast you can hardly seem to see the player's hand go."

#### An Air Tight Fit.

Mrs. Jennings and her city cousin were exchanging news of their old school friends. "How about Lucy Morse?" asked the cousin. "Has she kept on growing fatter and fatter?"

"Well, all I'll say is this," said Mrs. Jennings: "Annie Fall told me last year that when Lucy sent home from Nashua, where she was nursing her uncle, to have a silk waist made, Annie realized she hadn't got any measures, and then she remembered that the last time Lucy was there she stood up by the big air-tight stove, and Annie remarked—to herself—the resemblance between 'em. And she took the measure of that air-tight and cut in a mite for the waist line—'bout as much as a knife marks warm molasses candy—and made the waist accordingly, sent it on, and Lucy wrote back it was an elegant fit."



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, July 1, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	75% @ 77 1/2	75% @ 77 1/2
Thursday	77% @ 79 1/4	77% @ 79 1/4
Friday	78% @ 80 1/4	77% @ 79 1/4
Saturday	79% @ 80 1/4	78% @ 77 1/2
Monday	77% @ 78 1/2	76% @ 77 1/2
Tuesday	77% @ 78 1/2	76% @ 77 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	49% @ 50 1/4	48% @ 49
Thursday	50% @ 51 1/4	49% @ 50 1/4
Friday	50% @ 51 1/4	49% @ 50 1/4
Saturday	50% @ 51 1/4	49% @ 50 1/4
Monday	49% @ 50 1/4	48% @ 49
Tuesday	51% @ 50 1/4	50% @ 49 1/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 35 1/4 @ 1 37 1/4	—
Friday	1 36 1/4 @ 1 37 1/4	—
Saturday	1 36 1/4 @ 1 37 1/4	—
Monday	1 35 1/4 @ 1 37 1/4	—
Tuesday	1 33 1/4 @ 1 34 1/4	—
Wednesday	1 34 1/4 @ 1 34 1/4	—

### WHEAT.

This is generally a very quiet period in the wheat trade, being the dividing line between the old season and the new, with the Fourth and firecrackers breaking in on business, and giving the merchant and broker a chance to take a few days' airing in the country. The Grain Exchange of this city some years ago arbitrarily fixed the first of June as the beginning of the cereal year, but it is not so generally regarded and probably never will be. The first of July had for many years previous to this comparative recent change been the starting point statistically and otherwise for the grain year, and still appears to be the better date, being the beginning of the last half of the calendar year, with a holiday break to offset after a fashion the mid-winter lull at Christmas time. The only argument in favor of the change is that some new wheat arrives in June. Very little new wheat has arrived the past month, however, and it often happens that considerable old wheat does not put in an appearance within the season's limits, counting the year from July 1st. While the market has had a holiday aspect most of the week, and while Chicago was lower on futures, with a corresponding break here in December option, the local spot market for wheat continued to present a firm tone. Offerings were light and inquiry was not lacking, buyers being anxious to secure desirable lots at full current figures.

California Milling	1 40 @ 1 50
Cal No 1 shipping, alongside	1 32 1/4 @ 1 37 1/4
Oregon Club	1 50 @ 1 32 1/4
Washington Blue Stem	—
Washington Club	—
Off quality wheat	—

### PRICES OF FUTURES.

On Merchants Exchange prices of futures for No. 1 White wheat per cental for the week were as follows for the options named:

December, 1903, delivery, \$1 37 1/4 @ 1.33 1/2  
May, 1904, delivery, \$— @ —  
Wednesday, at the forenoon session of Exchange, Dec. 1903, wheat sold at \$1.34 1/2 @ 1.34 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1901-02.	1902-03.
Liv. quotations	6s 3 1/4 @ 6s 4 d	6s 9 d @ 6s 9 1/2 d
Freight rates	23% @ 25s	17% @ 18 1/2 s
Local market	\$1 11 1/4 @ 1 12 1/4	\$1 3 1/2 @ 1 3 5/8

### FLOUR.

Considering the time of year, and the rather light stocks now in store, there is a fair amount of business doing. In the quotable range of values there are no changes to note. That there will be any radical fluctuations in prices of flour in the near future is not considered probable.

Superfine, lower grades	32 40 @ 2 65
Superfine, good to choice	2 75 @ 3 00
Country grades, extras	3 75 @ 4 00
Choice and extra choice	4 00 @ 4 25
Fancy brands, jobbing	4 25 @ 4 50
Oregon, Bakers' extra	3 25 @ 3 75
Washington, Bakers' extra	3 25 @ 3 90

### BARLEY.

Buyers have been endeavoring to get values down on a lower basis than lately current, but have not succeeded to the extent that they desired. The extreme figures of a few weeks ago, realized under buying pressure on a market almost bare are, of course, not now obtainable, with offerings on the increase, but the com-

paratively fancy prices above referred to were secured only in a very limited way, and were not at the time warranted as wholesale quotations. The barley market cannot be termed weak. There is a good demand and likely to be for months to come, especially for desirable shipping grades. Most of the vessels now under engagement for grain loading at this port are chartered for wheat or barley or both, at option of charterer.

Feed, No. 1 to choice new	97 1/4 @ 1 00
Feed, fair to good	92 1/4 @ 95
Brewing, No. 1 to choice new	1 02 1/4 @ 1 07 1/4
Chevalier, No. 1 to choice	— @ —
Chevalier, common to fair	— @ —

### OATS.

The new oats thus far received have included little of high grade, which is not uncommon for early arrivals. The new offering are principally of the red variety, and where of common quality are not meeting with much competition from buyers. Stocks of old oats are now of quite moderate volume, and are being as a rule rather steadily held.

White Oats, fancy feed	1 27 1/4 @ 1 30
White, good to choice	1 25 @ 1 27 1/4
White, poor to fair	1 17 1/4 @ 1 22 1/4
Gray, common to choice	1 15 @ 1 20
Mildred	1 20 @ 1 22 1/4
Surprise, good to choice	1 25 @ 1 32 1/4
Black Russian	1 10 @ 1 15
New Red	1 07 1/4 @ 1 17 1/4

### CORN.

Market is firm at the quotations, and prospects are that prices will continue at a tolerably high range throughout the season. Supplies are of quite moderate volume, and are not expected to be burdensome for some time to come. Of course, the demand is not likely to prove brisk at such values as are now current.

Large White, good to choice	1 25 @ 1 30
Large Yellow	1 22 1/4 @ 1 27 1/4
Small Yellow	1 45 @ 1 50
Eastern, in bulk	— @ —

### RYE.

Prices for this cereal are being well maintained at the quoted range, there being no heavy quantities offering, either spot or to arrive.

Good to choice	1 15 @ 1 17 1/4
----------------	-----------------

### BUCKWHEAT.

Values are quotable about as last noted, but are largely nominal in the absence of any noteworthy trading.

Good to choice	1 65 @ 1 80
----------------	-------------

### BEANS.

There have been no particular changes developed in quotable values or the general tone of the market since last review. There is a moderate movement outward, considering the rather light supplies of most kinds and the tolerably stiff prices asked for white beans, as also for Bayos and Pinks. Not much doing on local account. Values during balance of the season are expected to keep close to current levels for above named varieties, which constitute the bulk of spot supplies. Limas and Black-eyes, stocks of which are mainly South, are being steadily held at last quoted decline.

Pea, fair to good, 100 lbs.	3 40 @ 3 50
Small White, good to choice	3 15 @ 3 25
Large White	3 00 @ 3 10
Pinks	2 90 @ 3 00
Bayos, good to choice	3 65 @ 3 75
Reds	2 90 @ 3 00
Red Kidney	— @ —
Limas, good to choice	3 50 @ 3 65
Black-eye Beans	2 90 @ 3 10
Garbanzos, large	2 00 @ 2 25
Garbanzos, small	1 25 @ 1 50

### DRIED PEAS.

Market is without especially noteworthy feature, being exceedingly quiet but steady for desirable qualities.

Green Peas, California	1 60 @ 1 75
Niles Peas	2 25 @ —

### HOPS.

There is a firm tone to the market, but not much doing here. There is talk of 21c and better being bid North for choice of last crop, and 17c being offered on contracts for forward deliveries of new. Late advices by mail from New York give the following resume of the market: "Conditions on the local market have not changed materially. In some quarters there is a little talk of weakness, but as a rule those who hold hops are not urging business, and dealers and brewers who try to buy have to pay fully as much as a week ago. It is true that the quantity of hops still in first hands is considerably larger than at this time last year, but many of them are controlled in a way that practically takes them off the market, and while this situation lasts the trade is not being pressed with an over-supply from other sources. Early in the week there was some trading between dealers in good brewing Pacific Coast hops at 21c, and some prime stock brought a fraction more. Strictly choice lots from either the Coast or this State are relatively scarce and brewers pay 23c @ 23 1/2 c for them. Heavy rains have greatly improved the crop prospects in New York State. In Oregon and Yakima a number

of the pooled hops are being consigned to a London house under a 20c guarantee. German advices have improved."

California, good to choice, 1902 crop	18 @ 21
---------------------------------------	---------

### WOOL.

There is not much wool offering here from first hands, and especially very little of desirable quality. Dealers are giving little attention to local offerings, claiming that the conditions East do not warrant the prices which have been lately current here. But the same play of talk has been made for years. Every season, to hear these same dealers tell it, more is being paid in the country for wool than it is worth, and these dealers who do the talking generally have a finger pretty deeply in the country pie. A shipment of 165,950 pounds went forward this week by steamer for New York.

	SPRING.
Humboldt and Mendocino	19 @ 21
Northern, free	17 @ 19
Northern, defective	16 @ 17
Middle County, free	16 @ 18
Middle County, defective	14 @ 16
Foothill	14 @ 16
San Joaquin and Southern, free	12 @ 14
San Joaquin and Southern, defective	10 @ 11

### HAY AND STRAW.

Despite some scarcity of cars, new hay has been arriving quite freely, boats and barges bringing more than ordinarily large quantities. The quotable range of values remained close to that of preceding week, but the market was not especially firm. The demand was not particularly brisk, and never is just prior to the national holiday. There will be considerable storing on future account and increased activity in the near future.

	NEW HAY.
Wheat, good to choice	10 00 @ 12 50
Wheat and Oat	10 00 @ 12 00
Tame Oat, good to choice	10 00 @ 11 50
Wild Oat, fair to good	9 00 @ 10 50
Barley	9 50 @ 11 00
Clover	9 00 @ 11 00
Alfalfa	8 50 @ 10 50
Compressed	10 00 @ 12 50
Straw, 3/4 bale	42 1/2 @ 55

### MILLSTUFFS.

Market for Bran and Middlings inclined in favor of buyers, spot supplies being on the increase, and the demand slow. For other millstuffs the market was quiet but fairly steady.

Bran, 1/2 ton	23 50 @ 24 50
Middlings	27 10 @ 29 00
Shorts, Oregon	24 00 @ 25 00
Barley, Rolled	21 50 @ 22 50
Cornmeal	27 50 @ 28 50
Cracked Corn	28 50 @ 29 50

### SEEDS.

Trading in the several kinds quoted herewith is at present of exceeding light volume. Not only is there very limited demand, but stocks in this center are of small proportions. Quotable values remain virtually as last noted.

	Per ctt.
Alfalfa, Utah	— @ —
Alfalfa, Cal., good to choice	— @ —
Flax	2 00 @ 2 25
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25
	Per lb.
Canary	5 @ 5 1/4
Rape	1 1/4 @ 2 1/4
Hemp	3 1/2 @ 4

### HONEY.

A shipment of 350 cases went forward this week per steamer for Germany, the honey being mostly if not wholly last year's product. Inquiry on local account is fair, but at present is more for Comb than for Extracted. Receipts of new honey are showing some increase, but spot stocks are far from being heavy.

Extracted, White Liquid	6 @ —
Extracted, Light Amber	5 @ 5 1/2
Extracted, Amber	4 1/4 @ 5
Extracted, Dark Amber	3 1/2 @ 4
White Comb, 1-lb frames	12 @ —
Amber Comb	8 @ 10
Dark Comb	7 @ 7 1/4

### BEESEWAX.

Very little to be had in this center at any price. Market is firm at the quotations.

Good to choice, light 1/2 lb.	27 1/2 @ 29
Dark	25 @ 26

### LIVE STOCK AND MEATS.

Market for Beef is quiet, as is to be expected at this date, but current values are being fairly well maintained. Not much Veal arriving, and such as is in prime to choice condition sells readily at full current values. Mutton was in ample receipt for current requirements, prices remaining at same quotable range as during preceding week. Lamb was not in heavy stock and sold to fair advantage, although demand was not very active. Hog market has ruled steady to firm most of the week, no trouble being experienced in securing custom at prevailing rates.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.	6 1/4 @ 7
---	-----------

Beef, 2nd quality	6 @ 6 1/4
Beef, 3rd quality	5 1/2 @ 6
Mutton—ewes, 8 @ 8 1/2 c; wethers	8 @ 9
Hogs, hard grain, 150 to 250 lbs.	5 1/2 @ 6 1/4
Hogs, large hard, over 250 lbs.	5 1/2 @ 5 1/2
Hogs, small, fat	5 1/2 @ 5 1/2
Veal, small, 1/2 lb.	9 @ 10
Lamb, Spring, 1/2 lb.	10 @ —

### HIDES, PELTS AND TALLOW.

While market is not noteworthy for activity, there is a moderate amount of business doing in this line and at quotably unchanged values.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	— @ 10 1/4	— @ 9
Medium Steers, 48 to 56 lbs.	— @ 9 1/4	— @ 8
Light Steers, under 48 lbs.	— @ 8 1/4	— @ 7 1/2
Heavy Cow Hides, over 50 lbs.	— @ 8 1/4	— @ 7 1/2
Light Cow Hides, under 50 lbs.	— @ 8 1/4	— @ 7 1/2
Stags	— @ 7	— @ 6
Wet Salted Kip	— @ 8 1/4	— @ 7 1/4
Wet Salted Veal	— @ 10	— @ 9
Wet Salted Calf	— @ 10 1/4	— @ 9 1/4
Dry Hides	— @ 17	— @ 16
Dry Kip and Veal, 11 to 16 lbs.	— @ 14	— @ 12 1/2
Dry Calf, under 4 lbs.	— @ 19	— @ 17
Pelts, long wool, 1/2 skin	1 00 @ 1 50	—
Pelts, medium, 1/2 skin	70 @ 90	—
Pelts, short wool, 1/2 skin	40 @ 65	—
Pelts, shearling, 1/2 skin	15 @ 30	—
Horse Hides, salted, large prime, each	3 00	—
Horse Hides, salted, medium	2 50	—
Horse Hides, salted, small	2 00	—
Horse Hides, dry, large	1 75	—
Horse Hides, dry, medium	1 50	—
Horse Hides, dry, small	1 25	—
Tallow, good quality	6 1/4 @ 6 1/2	—
Tallow, poorer grades	5 @ 5 1/4	—

### BAGS AND BAGGING.

The Grain Bag market is without improvement, and there is every prospect that prices will continue at a low range throughout the season. Market for cotton Fruit Sacks is firm, owing to stiff prices ruling on the raw product.

Fruit Sacks, cotton	6 1/4 @ 6 1/4
Fruit Sacks, jute, as to quality	5 1/2 @ 7
Grain Bags, Calcutta, 25x36, spot	5 1/4 @ —
Grain Bags, Calcutta, buyer June-July	— @ —
Grain Bags, San Quentin, in lots of 2,000	5 55 @ —
Wool Sacks, 4-lb.	36 @ —
Wool Sacks, 3 1/2-lb.	34 @ —

### POULTRY.

Receipts of domestic were not heavy, but in connection with the arrivals of Eastern, proved more than ample of most kinds for the immediate limited demand. Owing to warm weather, and also on account of many people being off on their Summer outings, not much poultry is now being used. Three cars of Eastern were put on the market this week. Full grown, large and fat young chickens were about the only sort for which the market showed any noteworthy firmness, although Fryers and Broilers in fine condition sold fairly well.

Hens, California, 1/2 dozen	4 50 @ 6 00
Roosters, old	5 00 @ 5 50
Roosters, young (full-grown)	8 00 @ 10 00
Fryers	5 00 @ 6 00
Broilers, large	3 50 @ 4 00
Broilers, small to medium	2 50 @ 3 00
Ducks, old, 1/2 dozen	3 50 @ 4 50
Ducks, young, 1/2 dozen	4 00 @ 5 00
Geese, 1/2 pair	1 00 @ 1 50
Goslings, 1/2 pair	1 00 @ 1 50
Pigeons, old, 1/2 dozen	1 50 @ 1 75
Pigeons, young	1 75 @ —

### BUTTER.

Market has been quiet and for other than most select qualities of fresh has inclined against sellers. Of strictly choice to select, however, either creamery or dairy product, there was no special surplus. Much off the butter now arriving is more or less off quality, which is invariably the case at this time of year.

Creamery, extras, 1/2 lb.	24 @ 25
Creamery, firsts	23 @ 24
Dairy, select	23 @ 24
Dairy, firsts	22 1/2 @ 23
Dairy, seconds	20 @ 21
Firkin, good to choice	— @ —
Mixed Store	17 1/2 @ 18 1/2
Pickled Roll	— @ —

### CHEESE.

There is a little better supply of flats than for some weeks past, but market is not quotably lower. Oregon is now forwarding some cheese to this market. Young Americas and all small sizes are commanding much the same figures as lately current, stocks of same being of rather light proportions.

California, fancy flat, new	12 @ —
California, good to choice	11 @ 11 1/4
California, "Young Americas"	11 1/4 @ 12 1/4

### EGGS.

Accumulations were not so excessive as preceding week, but beyond this the market was without appreciable improvement. Receipts are showing some decrease, but supplies of warm weather eggs, both California and Eastern, are proving more than ample for current needs. No marked change for the better is looked for until about the middle of August. Consumers are taking hold very lightly at present.

California, select, large, white and fresh	20 @ 21
California, select, irregular color & size	16 @ 19
California, good to choice store	15 @ 16

### VEGETABLES.

Many of the fresh vegetables arriving are showing the effects of hot weather,



and tendency of values on Asparagus, Peas and String Beans has been in consequence to a wider range, with market firm for choice to select, but weak for common qualities. Tomatoes sold at a wide range, owing to great difference in size of boxes. Peppers were more plentiful and cheaper, especially the Bell variety. The Onion market was without important change, being rather weak in tone, but not much lower.

Asparagus, per box.....	1 25	@ 2 00
Beans, Lima, per lb.....	4	@ 7
Beans, String, per lb.....	75	@ 7
Cabbage, choice garden, per 100 lbs..	12 1/2	@ 25
Corn, Green, per doz.....	1 25	@ 1 50
Cucumbers, per large box.....	10	@ 15
Egg Plant, per lb.....	2	@ 3
Garlic, per lb.....	—	@ —
Mushrooms, per lb.....	70	@ 75
Onions, new Yellow Danver, per ctn.....	40	@ 50
Onions, new Red, per sack.....	3	@ 4
Okra, Dried, per lb.....	1 25	@ 1 75
Peas, Sweet Garden, per lb.....	10	@ 12 1/2
Peas, good to choice, per sack.....	10	@ 12 1/2
Peppers, Bell, per lb.....	40	@ 65
Rhubarb, per box.....	50	@ 90
Summer Squash, per large box.....	1 50	@ 2 00
Tomatoes, Los Angeles, per crate.....	—	@ —

#### POTATOES.

The potato market has ruled strong most of the time since last review, particularly for old Oregon Burbanks, which were wanted for seed, and commanded a sharp advance, selling up to \$1.50 per cental, ex-wharf. New potatoes were in active request for shipment and are likely to be in brisk demand for some time to come. Shipments East were largely of white potatoes, but inquiry from the North was mostly for Early Rose. Sales of all new potatoes were at generally higher prices than previous week.

River Burbanks, per ctn.....	—	@ —
River Reds, per ctn.....	—	@ —
Gardet Chile, per ctn.....	—	@ —
Early Rose, per ctn.....	—	@ —
Oregon Burbanks, per ctn.....	1 35	@ 1 50
New Potatoes, in boxes, per cental.....	1 30	@ 1 75
New Potatoes, in sacks, per cental.....	1 15	@ 1 40

#### The Fruit Market.

#### FRESH FRUITS.

Nearly all varieties of summer fruits were in evidence, and the most seasonable kinds made a good showing, both as to quantity and quality. Apricots in bulk commanded \$30 per ton for choice yellow, while white sold mainly within range of \$20@25. Peaches were in not much heavier receipt than preceding week, and sold at much the same range of prices, with market moderately firm for choice. Apples were mostly of quite ordinary quality and met with a slow and weak market. Early Pears were plentiful and cheap. Cherries were in light receipt and the bulk of offerings was under choice; for choice to select there was a good demand at good figures. Plums had to be large and choice to meet with special attention or to command full prices. Figs were in increased supply, but market for this fruit was fairly steady. Grapes did not make much of a display, but only thoroughly ripe were salable to advantage. Berries sold at much the same figures as preceding week, with firmness confined mainly to select Blackberries. Raspberries and Longworth Strawberries. Cantaloupes and Nutmeg Melons arrived from Winters and Vacaville section. Watermelons were in fair supply from Indio and are expected soon from the Fresno and Lodi districts.

Apples, fancy, per 4-tier box.....	—	@ —
Apples, good to choice, per 50-box.....	1 00	@ 1 25
Apples, common to fair, per 50-box.....	50	@ 75
Apricots, per crate.....	2 50	@ 4 00
Blackberries, per chest.....	2 50	@ 3 50
Cantaloupes, per crate.....	4	@ 7
Cherries, Black, in bulk, per lb.....	2 1/2	@ 4
Cherries, White, in bulk, per lb.....	50	@ 85
Cherries, Black, good to select, per flat.....	40	@ 75
Cherries, Black, good to choice, per box.....	3 1/2	@ 6
Cherries, Royal Anne, per lb.....	35	@ 60
Cherries, White, good to choice, per box.....	2 1/2	@ 40
Cherry Plum, per box.....	75	@ 1 25
Figs, Black, 2 layer, per box.....	40	@ 60
Figs, Black, 1 layer, per box.....	40	@ 75
Figs, White, per box.....	2 1/2	@ 3
Gooseberries, common, per lb.....	1 50	@ 1 75
Gooseberries, English, per lb.....	2 00	@ 3 00
Grapes, Seedless Sultanina, per crate.....	—	@ —
Loganberries, per chest.....	40	@ 75
Nutmeg Melons, per crate.....	25	@ 40
Peaches, per box.....	65	@ 75
Pears, Madeline, per box.....	30	@ 40
Plums, Hurbank, per box.....	70	@ 80
Plums, C yman, per crate.....	60	@ 70
Plums, Simoni, per box.....	6 00	@ 9 00
Raspberries, per chest.....	5 00	@ 8 00
Strawberries, Longworth, per chest.....	2 50	@ 4 00
Strawberries, Melinda, per chest.....	15	@ 30
Watermelons, apiece.....	—	@ —

#### DRIED FRUIT.

A few new apricots have arrived, and sales of choice Royals are reported at 8c. In the San Joaquin valley packers are reported paying 6 1/2@7c in the sweat boxes, and are said to be securing considerable quantities at this range. Some carload shipments have been already made from interior to Eastern points. Some business is reported in prune futures within range of 2 1/2@3c for the four sizes, the lower figure for northern and the outside price for Santa Claras, but these figures are under the views of growers generally and there may be some trouble in filling contracts with satisfactory goods. In the way of

trading in futures of other dried fruit there are no evidences of anything doing. Prospects are favorable, however, for a generally healthy market for the current season's output, and for the realization of better average prices than have been obtained the past year. Stocks of last crop are now of light volume and are steadily showing further reduction. The tendency on 1902 prunes is to a closer range of prices, 2 1/2c being the lowest quotable figure at present for the four sizes from outside sections. There is considerable inquiry for low-priced old peaches, such being now in light stock; some were placed this week at 3 1/2c, a better figure than had been obtainable for same stock for some time previous. That there will be much old dried fruit of any sort on the market by the time new stock begins to arrive freely is not probable.

#### EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/2	@ 4 1/2
Apples, extra choice to fancy, 50-lb box.....	5	@ 5 1/2
Apricots, Moorpark.....	8	@ 9 1/2
Apricots, Royal, good to choice, per lb.....	6 1/2	@ 7
Apricots, Royal, fancy.....	7 1/2	@ 8
Figs, 10-lb box, 1-lb cartons.....	65	@ 75
Nectarines, per lb.....	3 1/2	@ 4
Peaches, unpeeled, fair to good.....	3 1/2	@ 4 1/2
Peaches, unpeeled, choice.....	4 1/2	@ 5 1/2
Peaches, unpeeled, fancy.....	5	@ 6
Peaches, unpeeled, extra fancy.....	7	@ 7 1/2
Pears, halves, fancy.....	8	@ 9
Pears, halves, choice.....	5 1/2	@ 6
Pears, halves, fair to good.....	4 1/2	@ 5
Plums, Black, pitted.....	4 1/2	@ 5
Plums, Red and Yellow.....	5	@ 5 1/2
Prunes, Silver, good to fancy.....	4	@ 6 1/2
Prunes, in bags, 4 sizes, 2 1/2@2 1/4; 40-50s, 5 1/2@5 1/4c; 50-60s, 4 1/2@4 1/4c; 60-70s, 3 1/2@3 1/4c; 70-80s, 2 1/2@2 1/4c; 80-90s, 2 1/2@2 1/4c; 90-100s, 1 1/2@1 1/4c; small, 1 1/4@1 1/2c.	—	@ —

#### COMMON SUN-DRIED.

Apples, sliced.....	3 1/2	@ 3 3/4
Apples, quartered.....	3 1/2	@ 3 3/4
Figs, White, in bulk.....	5	@ 5 1/2
Figs, Black, in sacks, per lb.....	4 1/2	@ 5
Plums, unpitted, per lb.....	1 1/2	@ 2

#### RAISINS.

In the raisin market there is scarcely any business being transacted and quotable values remain nominally as previously noted. The Muscatel Raisin Growers' Association, as previously noted, has decided to limit the contract with the packers to one year. The Sultana Raisin Growers' Association has established a selling agency in this city and is being conducted on much the same lines as the older association of Muscatel growers.

Prices at common shipping points, crop of 1902: 2-crown London Lavers, 20-lb boxes, \$1.10 per box; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Deheas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, per lb., 4-crown, 5 1/4c; 3-crown, 5 1/2c; 2-crown, 5c.

#### CITRUS FRUITS.

Oranges are still on market, although there will probably be no more auction sales of the fruit this season. Present offerings are mostly over-ripe or otherwise unsuitable for the most particular trade and are not receiving much attention. Lemons remained quotably about as last noted, with the firmness of the market confined to best qualities. Limes were in moderate stock and were held at unchanged prices.

Oranges, Washington Navel, per box.....	1 00	@ 2 50
Oranges, Valencia, per box.....	1 25	@ 2 50
Oranges, Mediterranean Sweets.....	75	@ 1 25
Lemons, California, select, per box.....	2 75	@ —
Lemons, California, good to choice.....	2 25	@ 2 51
Lemons, California, fair to good.....	1 25	@ 2 25
Grape Fruit, per box.....	75	@ 2 00
Limes, Mexican, per box.....	5 50	@ 6 00

#### NUTS.

This market is very quiet throughout. Almonds are in fair supply for this date, with no appreciable changes in values. Old Walnuts are nearly all gone and market for new crop has a strong tone. Peanuts are not in heavy stock and are in fair request at steady values.

California Almonds, shelled.....	16	@ 20
California Almonds, paper shell.....	11	@ 12
California Almonds, soft shell.....	8	@ 10
California Almonds, hard shell.....	5	@ 5 1/2
Peanuts, California, fair to prime.....	4 1/2	@ 5 1/2
Peanuts, Eastern, hand-picked.....	5 1/2	@ 6 1/2
Walnuts, White, soft shell.....	13	@ 13 1/2
Walnuts, White, standard.....	—	@ —

#### WINE.

Very little doing in a wholesale way in the wine market. Dry wines of last vintage remain quotable at 16@20c per gallon, as to quantity and quality, but the figures are largely nominal at present, in the absence of any noteworthy transactions. The Wholesale Dealers' Association claims to be out of the market for the time being, having all the stock they care to carry just now. Sellers desiring to realize immediately will have to depend on small and outside buyers. The steamer Acapulco, sailing Monday, carried 58,618 gallons and 62 cases, including 53,747 gallons for New York. Receipts of wine at San Francisco last week aggregated 302,303 gallons.

Faro Ferd—"Say, Ike, I opined we had perty nerry kids here in the West, but sufferin' grizzlies! They hain't a marker to the Eastern children. Here's an account of how four little boys held up a bridal train at a weddin'!"

#### Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1902.	Same time last year.
Flour, 1/4 sks.....	108,737	5,955,284
Wheat, cts.....	24,371	6,087,807
Barley, cts.....	20,560	4,931,843
Oats, cts.....	2,999	766,044
Corn, cts.....	1,055	147,260
Rye, cts.....	1,100	185,650
Beans, sks.....	3,451	704,180
Potatoes, sks.....	19,223	1,305,908
Onions, sks.....	3,261	215,325
Hay, tons.....	3,968	163,226
Wool, hales.....	1,240	60,325
Hops, bales.....	164	15,321

#### EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1902.	Same time last year.
Flour, 1/4 sks.....	141,348	4,070,787
Wheat, cts.....	516	5,267,534
Barley, cts.....	6,582	3,534,948
Oats, cts.....	968	40,112
Corn, cts.....	1,262	50,565
Beans, sks.....	276	43,526
Hay, hales.....	4,015	217,752
Wool, lbs.....	1,68,059	1,809,485
Hops, lbs.....	3,155	435,187
Honey, cases.....	12	4,165
Potatoes, pkgs.....	1,735	103,337

#### Horse Owners! Use



**GOMBAULT'S**  
**Caustic Balsam**  
A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charge added, with full directions for its use. Send for descriptive circulars.  
**THE LAWRENCE-WILLIAMS CO., Cleveland O.**

#### W. A. PLUMMER,

Importer and Manufacturer of

## GRAIN BAGS, Twines,

TENTS, AWNINGS AND WAGON COVERS

111 CLAY STREET,

San Francisco, Cal.

#### THE "BOSS"

## TREE PROTECTOR.



Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

#### PRICES:

	12 inches long,	\$ 9.00 per 1000.
14 "	"	10.00 "
16 "	"	11.50 "
18 "	"	12.50 "
24 "	"	15.00 "
30 "	"	17.50 "

Agents Wanted Everywhere.

YUCCA MANUFACTURING CO.,

450 SANTA FE AVE., LOS ANGELES, CAL.



IRRIGATORS ATTENTION!

WE MANUFACTURE

## ECLIPSE Centrifugal Pumps

AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.

Send for Folder.

## MALTHOID ROOFING



Made in California where materials are produced. The lowest priced roofing made. Lasts longer than all others. It is weather and water-proof and fire resisting.

Send for booklet.

The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1870, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

## DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

PATENT AGENTS.

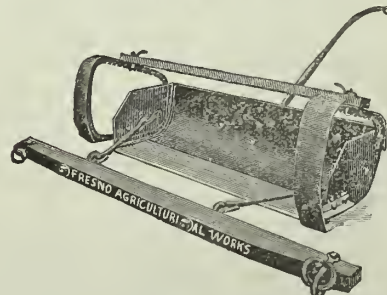
330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.

## The Fresno Scraper.

3 1/2-4-5 Foot.



FRESNO AGRICULTURAL WORKS, FRESNO, CALIFORNIA.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering.

Surveying Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER WAILER, Pres. Assaying of Ores. \$25; Bullion and Chlorination Assay. \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1884. Send for Circular

PRINTING. We furnish all stock and do printing at the following prices: 100 envelopes 40 cts., 500 \$1.25, 1000 \$1.75. Bill heads, note heads, cards, tags, etc., at same price. Samples of work free. Pacific Commercial Co., 325 Davis St., San Francisco, Cal.





## Leg and Body Wash.



When it comes to stiffness and soreness of muscles, tendons, etc., nothing equals

### Tuttle's Elixir

for restoring normal conditions. Apply to the body as a mild sponge bath and put on light blanket. Sponge the legs and put on light bandages.

Used and Endorsed by Adams Express Company.

### Tuttle's American Condition Powders

—A specific for impure blood and all diseases arising therefrom. TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.

Tuttle's Elixir Co., 83 Beverly St., Boston, Mass.

437 O'Farrell St., San Francisco, Cal.

Beware of so-called Elixirs—none genuine but Tuttle's.

Avoid all blisters; they offer only temporary relief, if any.

## THE VETERINARIAN.

### Black Leg.

By ARCHIBALD R. WARD, Veterinarian and Bacteriologist, University of California, Berkeley.

Black leg is also known as symptomatic anthrax, emphysematous anthrax, quarter ill, black quarter and rauschbrand.

**ANIMALS AFFECTED.**—For all practical purposes the disease may be considered as one of cattle, occurring chiefly among young stock between the ages of three months and four years. Cattle under three months are naturally immune, and for the same reason animals over four years but rarely are attacked. It is a matter of common observation that calves in good condition are more liable to attack than poorer ones. Nevertheless, it is not safe to consider that poor condition will confer immunity against black leg. The disease is not communicable to man.

**SYMPTOMS.**—The most important symptom is the occurrence of swelling under the skin on any part of the body except the legs below the knees or hocks. The swellings when first appearing are painful, but as they become larger the skin in the center of the swelling becomes insensible. The enlargements are, to a large extent, composed of gas bubbles imprisoned in the loose tissues beneath the skin, and the large ones, when pressed, give forth a very characteristic crackling sound. When a swelling is tapped with the finger, it emits a drum-like resonance. When occurring upon the legs, the tumors may cause lameness and even prevent the victim from walking at all. If the tumor is cut open, black or frothy blood runs out. Fever is present and is manifested by the usual indications, such as quickened breathing, dullness and loss of appetite. Death occurs within a period varying from eight hours to two days after the beginning of the attack.

**CHANGES OBSERVED AFTER DEATH.**—The carcass bloats rapidly and likewise decomposes quickly after death. When swellings are cut open they are found to contain more or less clotted black blood and gas. The excessive blackening by blood gives rise to the various names, such as black quarter and black leg. Some internal organs are more or less affected but the changes in the internal organs need not be considered in recognizing the disease.

**CAUSE.**—The disease is brought about by bacteria which live naturally in the soil and which gain access to the body through wounds, and more rarely with food eaten. The germs of black leg are quite generally distributed, but certain soils have been observed to offer particularly favorable conditions for their existence, and in consequence are especially dangerous for stock pastured thereon. Among these are damp or water-logged soils, or heavy clay soils. Punctured wounds, such as those produced by barbed wire, briars, stubble, etc., are regarded as fruitful sources of infection. A diseased animal is not regarded as a direct source of danger to other animals in contact with it. If the swellings have been cut open and blood is discharged, there is more danger.

**DISPOSAL OF THE DEAD.**—Burning is preferable to any other method of disposal, as it is the means that can be

relied upon to absolutely destroy all germs of the disease with which the carcass is teeming. When the victim is buried the germs will remain alive in the soil long after the carcass has decomposed, and will constitute a menace to the health of stock pastured upon the land. Earthworms are said to convey infection to the surface.

**TREATMENT USELESS.**—No successful treatment is known, and even should a remedy be discovered, its usefulness would be limited, owing to the rapidly fatal nature of the affection. Cutting open the swellings and injecting the various medicines has seldom met with success. Excessive exercise and bleeding have also been found next to useless.

**PREVENTION BY VACCINATION.**—The method is based upon the principle that an attack of the disease may be warded off by purposely causing the animal to have an exceedingly mild attack by artificial means. Vaccine is prepared by obtaining flesh from a diseased animal, finely dividing it and subjecting it to a high temperature for several hours. The treatment of the diseased material reduces the disease-producing power of the black leg germs that it contains. The vaccine material, when injected under the hide of a healthy calf, produces little or no visible effect upon the health, but experience shows that this vaccination protects the animal from catching the disease naturally for a year or more. The method was originated in Europe in 1883, and has since been improved upon and used in all districts of the civilized world where stock raising is carried on extensively. Vaccination as a preventive of black leg has been and is encouraged by the Bureau of Animal Industry of the United States Department of Agriculture and the Agricultural Experiment Stations. Its use has long since passed the uncertain experimental stage.

**WHEN NOT TO VACCINATE.**—Calves should not be vaccinated unless it is known that the disease has previously occurred among animals pastured on the same land. When vaccination is practiced there is great risk of introducing the germs of the disease and thus infecting the land, which would necessitate vaccination annually thereafter. A stock owner can much better afford to ascertain that his range is infected by waiting until a death has occurred than to rush into vaccinating before he is certain that it is necessary. Black leg does not sweep over a region rapidly like some infectious diseases. Do not castrate or dehorn at the time of vaccination. Do not vaccinate animals already stricken with the disease.

**WHAT ANIMALS TO VACCINATE.**—Animals between the ages of five months and two years should be vaccinated several weeks before the disease usually appears. Animals older or younger occasionally die of the disease, but it is not profitable to vaccinate against the attacks, for they occur rarely. If animals under six months are vaccinated, the process should be repeated the following year. The operation is facilitated by confining the calves in a chute.

**WHERE VACCINE MAY BE OBTAINED.**—The Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C., furnishes vaccine free to all applicants. Each stock owner must apply directly to Dr. D. E. Salmon, the Chief of the Bureau of Animal Industry, and an application blank will be mailed to him, upon which the owner shall indicate the amount needed, etc. Under no circumstances will black leg vaccine be sent to any one person for distribution to others, or for use upon other cattle than his own. For administering the vaccine, a vaccination outfit must be obtained, costing from \$4 to \$6. The outfit can usually be readily obtained through drug stores. Vaccine prepared by private firms can be purchased from the druggist or directly from the addresses below. Firms preparing vaccine known to the writer, are: The Cutter Analytic Laboratory, Rialto Building, San Francisco; The Pasteur Vaccine Co., represented by Cadogan & Mc-

Clure, 110 Jessie street, San Francisco. The various manufacturers supply vaccination outfits and furnish plainly worded directions for use.

### Answers to Inquiries.

By E. J. CREELEY, D. V. S., Dean of S. F. Veterinary College, 510 Golden Gate Avenue.

### CONGENITAL RUPTURE.

**TO THE EDITOR:**—I have a fine male colt that has been ruptured since it was a week old; it is now about two months old. I had our local veterinarian see him; he ran thread through scrotum and tied it, but it soon broke and is as bad as ever. I would like to know what is best for me to do with him.—P. OLSON, Auburn.

Let the colt alone. The majority of congenital ruptures disappear as the animal grows older. If it grows larger or does not disappear, I will then advise successful treatment.

## Removal Notice

### —OF— The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

### OUR SPECIALTY IS CUTTER'S BLACK LEG VACCINE.

Write for BLACK LEG booklet.

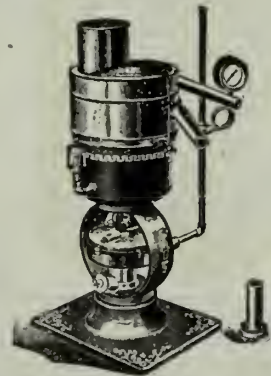
If your druggist does not stock our products, order direct from us; we pay all transportation charges.

### PARSONS' NEW FRUIT EVAPORATOR.

Result of nineteen years' experience. A complete success. Capacity, 1 to 10 tons and upwards. Simple, safe, reliable, economical. Any fuel. Wood or wire trays. Trays piled on cars and all work done on same level. Trays dry evenly. Just the thing for finishing late crops. Solves the problem of drying olives. Will dry anything. No machinery. Write at once to L. W. PARSONS, Pollard Road, Campbell, Cal.

Telephone Main 199.

Blake, Moffitt & Towne,  
DEALERS IN PAPER,  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.



## AND STILL ANOTHER!

SACRAMENTO, CAL., June 13, 1903.

**BAKER & HAMILTON, San Francisco, Cal.**  
Gentlemen:—We do not hesitate to say that the Simplex Separator you placed in our creamery, on trial, has come up to our fullest expectations. We are very much pleased with the results of this machine. Having the capacity of 3500 lbs of milk per hour, it is easy and simple to clean, while it skims thoroughly up to its full capacity. We have found no other machine superior to it in any respect, and would be pleased to recommend it to anyone desiring an up-to-date separator.

Very respectfully,  
BARTON-FISHER CREAMERY,  
S. N. NASH, Mgr.

Send for Complete Printed Matter and New 1903 Creamery Catalogue.

## BAKER & HAMILTON,

Sole Coast Agents,  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

**SHARPLES TUBULAR Cream Separators**

If we cannot show you wherein our separators are worth at least fifty per cent more than other separators, don't buy them. We want you to know that you have the best when you buy a Tubular. You cannot help being convinced if you examine a Tubular. You will find it entirely different from other separators. Write for free catalogue No. 131.

THE SHARPLES CO., P. M. SHARPLES,  
Chicago, Illinois. West Chester, Pa.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

LOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## JUNIOR MONARCH HAY PRESSES.



Standard and 3/4 Bale Sizes.

Manufactured and for Sale by

L. C. MOREHOUSE.

WM. H. GRAY, Agent, San Leandro, Cal.

## HAVE YOU SEEN THE Jack of All Trades

—A GASOLINE ENGINE of the most modern type for farm use?

Pumps Water—Saws Wood—Runs Separators Shells Corn—Grinds Feed—Churns Butter

And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

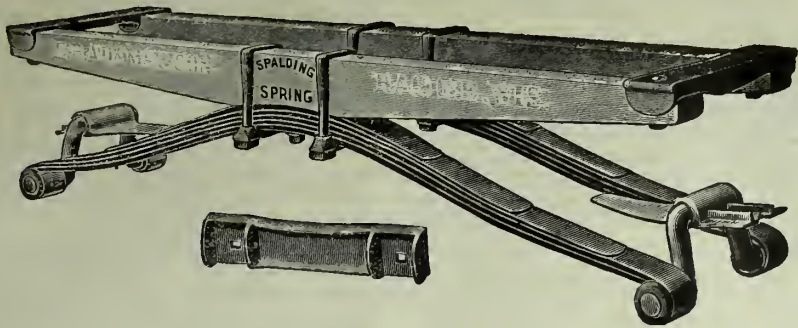
Write for free descriptive catalogue "Fa."

Fairbanks, Morse & Company,

San Francisco, Los Angeles, Portland, Or.







THE GENUINE

# "Spalding" Bolster Spring

WITH "ADAMS" PATENT END PLATE.

The best Bolster Spring on the market. Why not buy the best and save breakdowns and blacksmiths' bills?

Insist on your dealer furnishing you the GENUINE "Spalding." To be had only from our agents or from us direct.

Address

**Baker & Hamilton,**  
Sacramento, San Francisco, Los Angeles.

U  
S  
U  
S  
U  
S

There are many reasons why the Improved

## U. S. SEPARATOR IS THE ONE TO BUY

Below are a few of them :

**THE U. S.**

- Costs no more than inferior machines
- Gets More Cream out of the Milk
- Is less expensive to operate
- Increases the quantity
- Improves the quality
- Will wear longer
- Soon pays for itself
- Has its gears enclosed
- Bowl has few parts to wash
- Has simple self-emptying Bowl
- Has many other points of superiority

More fully described in our catalogues which are free for the asking, all making

The U. S. Separator the Standard Separator of the World

For Western customers, we transfer our separators from Chicago, LaCrosse, Minneapolis, Sioux City and Omaha. Address all letters to Bellows Falls, Vt.

**Vermont Farm Machine Co., Bellows Falls, Vt.**

S  
U  
S  
U  
S  
U



## PORTABLE BUILDINGS

No. 47—Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue, with Prices.

**BURNHAM-STANDEFORD CO.,**  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine Grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000

**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 18

FRESNO, CAL.

## LARGEST CITRUS NURSERIES IN THE WORLD

Trees True to Name; Standard Varieties; Catalogue Free.

R. M. TEAGUE

SAN DIMAS CITRUS NURSERIES San Dimas, Cal.



ONE OF OUR 100,000 BLOCKS OF CITRUS NURSERY TREES

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

#### Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

#### Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California  
California Climate as Related to  
Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation  
Garden Drainage in California.  
Cultivation.  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Radishes.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## GLENN RANCH, Glenn County, :::: California. FOR SALE In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California

## LAND!

Near Stanford University and Palo Alto, Santa Clara County, California.

**\$11,500.** Good general farm, 83 acres, 2 1/2 miles out. House 11 rooms large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

**\$4250.** Fine orchard, 6 acres full bearing in town of Mountain View. House 5 rooms, barn and outhouse; a beautiful home place.

**\$7000.** A beautiful tidy place. House 8 rooms, large barn, etc., young orchard 10 acres, 3 miles from University; must be seen to be appreciated.

**\$8500.** Splendid orchard, 15 acres full bearing, 5 miles from University; good level road, house 8 rooms; a paying proposition.

I have listed many other larger and smaller orchards, also town lots in Mountain View and Palo Alto, also good orchard land ranging from \$100 to \$200 per acre. Write for what you require.

JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

## Napa County Real Estate FOR SALE.

Home seekers should visit the beautiful and fertile Napa valley before investing elsewhere.

Send for our illustrated catalogue, "The Garden Spot of California." Address communications to THE CALISTOGA REAL ESTATE CO., Calistoga, Cal.

## FOR SALE---20 ACRES,

Well fenced, 3 1/2 miles west of Mt. View, Santa Clara Co.

Situation practically frostless. A stream of clear, cool water running through place year round. Soil of the best. 14 acres planted to apricots one year old. A splendid place for a healthy, profitable home. For further particulars, address

A. B. BOLAND, Box 12, Menlo Park, California.

**BUY** alfalfa land graded ready to plant; water right deeded with land guaranteed sufficient for irrigation purposes; near town creameries and R. R.; will sell for a limited time at \$15 per acre; half cash, balance on time if desired. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

## CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO., G 26 Montgomery St., San Francisco. G 325 Dearborn St., Chicago. G 334 So. Broadway, Los Angeles.

## Dividend Notice.

CALIFORNIA SAFE DEPOSIT AND TRUST COMPANY,

CORNER CALIFORNIA AND MONTGOMERY STS.

For the six months ending June 30, 1903, dividends have been declared in the savings department of this Company, as follows: On Term Deposits at the rate of 3-6-10 per cent per annum, and on Ordinary Deposits at the rate of 3 per cent per annum, free of taxes, and payable on and after Wednesday, July 1, 1903. Dividends uncalled for are added to the principal after July 1, 1903.

J. DALZELL BROWN, Manager.

## DIVIDEND NOTICE.

Mutual Savings Bank of San Francisco  
710 MARKET ST., OPP. THIRD.

For the half year ending with June 30, 1903, a dividend has been declared at the rate of three (3) per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1903.

GEO. A. STORY, Cashier.

## Better Roads and Better Schools.

The farmers of East Tennessee are aroused on the subject of road improvement, and especially enthusiastic for the plan of co-operation between the State and nation. At the recent East Tennessee Farmers' Convention, with an attendance of 1200 men, the Brownlow bill was unanimously endorsed. The measure was especially commended as a means of improvement in the country schools. This is one of the strongest reasons for the systematic improvement of the country roads. Unimproved roads are perhaps the greatest drawback to the success of rural schools. When the season of bottomless roads arrives, the attendance at school becomes small and irregular, the classes become discouraged and but little progress can be made.

One of the principal reforms of today consists in the consolidation of rural schools, so as to do away with the greater number of small, unsatisfactory schools and replace them with larger centrally located schools. This would reduce the expense and greatly increase the efficiency of the country schools. In many places the people have adopted the plan of sending out wagons at public expense to bring in the children on the various roads. But this plan is only feasible where the roads are uniformly good. Hence, the bad roads which prevail in most sections are a great bar to educational progress.

The principal reason why the policy of national road building was abandoned early in the last century was the invention of the steam railroads. For three-quarters of a century we have gone on developing our steam roads until we have the greatest system in the world. Now that this development approaches completion, attention is reverting to the importance of the common roads. And it is especially gratifying to find railroad men working enthusiastically and devoting their means to the improvement of the public roads. They recognize that such roads are not competitors, but feeders of the steel highways. Hence, they organize "Good Roads" trains, load them with road-building machinery and run from place to place on their systems, getting up conventions and building object-lesson roads. The work of this kind which has been done in the South is bearing fruit, as is shown by the widespread interest in the national aid plan.

## Irrigation With Pumping Plants.

The Stockton Mail says Mr. P. Stein has a 12 H. P. gasoline engine which operates a 4-inch centrifugal pump, to which is attached a 5 inch suction pipe. It throws about 700 gallons a minute, and with this pumping plant it would be possible to keep 150 acres of orchard under irrigation. The cost is nominal, but it could be reduced still more by attaching an appliance costing \$60 or \$70, which makes it possible to burn crude petroleum instead of gasoline or distillate. The method of irrigating is to run three or four furrows between the trees, but far enough away to avoid wetting the trunks. The first watering is done late in the spring—say towards the end of May—and the second in July. Twice is enough for almonds, but late peaches receive a third irrigation in August. When the furrows are well filled with water they are stopped up with checks, to let the moisture percolate through the ground. As soon as the soil is in good condition for working again, which is usually two or three days after the water has been applied, a harrow is run over the ground to break it up into fine particles, which tends to retain the moisture.

## THE RAISIN INDUSTRY.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hildgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers. Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

PACIFIC RURAL PRESS,  
330 Market Street, San Francisco, Cal.

## An Idaho Way With Squirrels.

Mr. B. C. Dowdy, says the Moscow, Idaho, Star, has discovered a novel and inexpensive method of exterminating ground squirrels. He takes a tin fruit can which has been opened at one end. In the other end he makes a small hole, not quite so large as a silver dollar. After the squirrel has disappeared in his burrow he puts in his can with the small hole toward the top. The squirrel attempts to come out, but cannot. He sees the opening, but cannot get through it, and apparently does not understand the reason why, and has not ingenuity enough to attempt to dig around the can, consequently he stays in the ground and starves to death. Mr. Dowdy says he has tried this method in a field of alfalfa when the squirrels were so numerous they were making havoc with the succulent grass, and has completely exterminated them. The discovery of this way of killing them was purely accidental.

This claim is respectfully referred to the Manteca Association for trial and report.



## TAKE NOTICE!

Your wire fence don't sag if it's the PAGE. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.



## TOULOUSE & DELORIEUX,

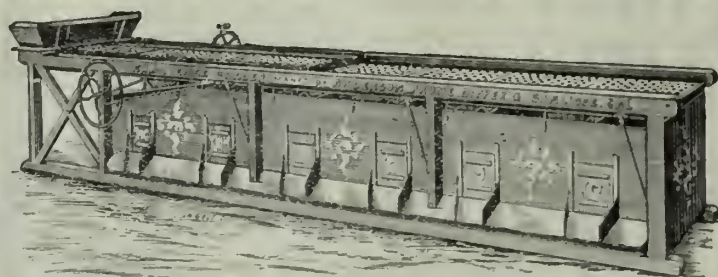
620-622 COMMERCIAL ST.  
SAN FRANCISCO, CAL.

## OLIVE & MILLS.

WINE MACHINERY.

THE LATEST AND BEST.

SEND FOR CATALOGUE.



## The "Challenge" Grader.

The above picture is an exact drawing of our Challenge Grader. It is built for either hand or power, in four sizes—from five to eight grade.

If interested in this or any other fruit handling machinery, write us. We will then mail you our new catalog containing illustrations of over eighty machines.

We make a specialty of planning, building and equipping complete Drying Plants and Warehouses, for we now have the largest and most complete factory on the coast for manufacture of all kinds of fruit handling machinery.

## ANDERSON-BARNGROVER MFG. CO.,

128 West Santa Clara Street,

SAN JOSE, CALIFORNIA.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## WANTED. EXPERIENCED BUDDERS.

Write to FRESNO NURSERIES, Dinuba, Cal.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

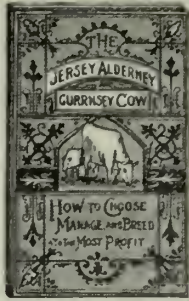
## HORSE - BREEDING RECOLLECTIONS.



By Count Lehendorff, the manager of the Government stud of Germany, who has made a special study of the intricacies of horse breeding, and in the volume before us, embodies the result of years of careful study. While all may not agree with his conclusions, none will dispute the value of his observations. Size, 5 1/2 x 8 1/4 inches. Bound in full cloth. \$1 postpaid.

Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.

## JERSEY, ALDERNEY and GUERNSEY COWS.



By Willis P. Hazard. Their History, Nature and Management. Showing how to choose a good cow; how to feed, to manage, to milk and to breed to the most profit. Edited from the writings of Edward P. Fowler, George E. Waring Jr., Charles L. Sharpless, Prof. John Gamgee, Fr. Guenon and others. Illustrated with engravings and diagrams, etc. Bound in full cloth. Size, 5 1/2 x 8 1/4 in. \$1 postpaid.

Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.



## Ignorance About Phylloxera.

To THE EDITOR:—Is it not surprising that there are so many people who do not know the first thing about the conditions which affect their industry? For instance, I have trudged about among vine growers in one of the counties north of the bay and I find many people eager for information on the phylloxera, etc. To them it is a mysterious disease without a definite cause, and I can make the statement that of all persons in this district only about a half dozen know anything about the phylloxera. A great many had remedies "from the old country." One was to pour boiling salt water on the vine, but when I meet them since giving them bulletins on the insect they have nothing to say about their "cures."

One man from Italy in this locality, has found out the "cause" why forty of his acres in vineyard are dying. The railway skirts his vineyard and he claims that "d— injun smoke he killing my vineyard." When asked how he knew it was, he replies, it is the same way in Italy—"no railroad, vineyard all healthy, railroad come, vineyard gets sickly and die."

So it goes on with both the American and foreign born. They are ignorant of the things with which they have to deal.—STROLLER.

This is all too true, and it is not true of vine growers alone. In spite of all that is being done by the printing press and the farmers' institutes, there are still thousands who are unreached. Still every year new souls are enlightened and the various forms of teaching must be hopefully pursued.

## The Raisin Association.

According to the Fresno Republican, the mass meeting of raisin growers last week decided almost unanimously in favor of a one-year contract. Of course, that in itself eliminated the provision giving the directory power, with the consent of a majority of the growers, to sell the crop for one or more years. An effort by M. Theo. Kearney to have the penalty for violation of the contract reduced from 20% to 5% failed to carry. The meeting was very largely attended, the hall being completely filled. There were easily 1000 in the hall, of whom fully 800 were growers.

This year, it might be explained, the reversal of policy came much earlier than in previous years. It was well along in August before the yellow slip was turned down, and the crop was at the packing house doors when the New Jersey lease was given its quietus. So this year, the impossible having been given up by the directors as soon as the impossibility became apparent, there is still plenty of time to thoroughly canvas the field and get 90% of the acreage signed up before harvest.

## Farmers' Insurance Companies.

G. F. Cromer, secretary (207 Currier Building, Los Angeles), informs us that the California Association of Farmers' Mutual Fire Insurance Companies will have its regular annual convention at Fresno, Cal., Tuesday, July 14, 1903. All who are interested in co-operation should attend. All farmers' insurance companies should be represented and join the organization. All unorganized counties or skeptical neighborhoods should be especially represented. A few hours at this convention will convince them of the economy and stability of the proposition. There are more than a dozen companies in California operating under the 1897 law carrying over \$5,000,000 in insurance.

## Fruit and Alfalfa.

Modesto and Turlock irrigation districts, located in Stanislaus county, in central California, have completed their extensive systems. This puts 180,000 acres under irrigation, and anything that can be grown in California can be grown there. Anyone desiring information about that locality can get the same by applying to A. B. Shoemaker, Modesto, Cal.

## Saltpeter for Corn Ear Worms.

To THE EDITOR:—I can tell Grower of Gardena what he can soak his corn in before he plants it, so that he will not be troubled with worms in the ears. I have used it for ten years and always have the best sweet corn used among my customers. It will not cost more than 1 cent for four quarts of corn.

For four quarts of corn I use a piece of saltpeter as large as a small sized acorn or marble. Dissolve the saltpeter in water enough to wet the corn and soak the corn in it just as farmers soak the corn to start it quickly. If too much is put in the water for a quantity of corn it serves to weaken the corn in coming forth when it is small. I have found that the worm never goes down into the ear, but sometimes he may bite some of the silk.

Martinez.

L. BRAUN.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING JUNE 16, 1903.

- 731,011.—GRAINING MACHINE—B. W. Augustine, Alameda, Cal.  
 731,094.—THEATRICAL STAGE—H. W. Bishop, S. F.  
 731,157.—CAN BODY MACHINE—H. L. Black, Oakland, Cal.  
 731,335.—BAIT BOX—N. B'anchet, Pendleton, Or.  
 731,159.—PIPE JOINT—Boardman & Jackson, S. F.  
 731,285.—HYDRAULIC RAM—H. Culpin, Aims, Or.  
 731,169.—EXTRACTING METALS—O. A. Ellis, El Dorado, Nev.  
 731,175.—EDUCATIONAL DEVICE—J. T. Goodman, Alameda, Cal.  
 730,910.—CAR COUPLING—G. C. Harlin, Seattle, Wash.  
 731,364.—TRACTION APPARATUS—A. A. Honey, Tacoma, Wash.  
 731,375.—TRACTION APPARATUS—A. A. Honey, Tacoma, Wash.  
 731,189.—HORSE CHECK—S. W. M. & G. L. Kollock, Tacoma, Wash.  
 730,934.—FURNACE FEEDER—J. C. Leary, S. F.  
 731,311.—RULE OR SCALE—W. F. Leavell, Castlevale, Wash.  
 731,380.—BOILER—L. I. S. Mayhew, Whatcom, Wash.  
 730,954.—GATE LATCH—C. E. McEwen, Lowell, Wash.  
 730,949.—FISH TRAP—Miller & Wallace, Fairhaven, Wash.  
 730,957.—WRENCH—A. Newell, Pasadena, Cal.  
 731,370.—SAND GUARD FOR RAILROADS—J. P. Newell, Portland, Or.  
 731,899.—ALCOHOL HEATER—E. R. Plummer, Los Angeles, Cal.  
 731,130.—WELL—M. D. Rochford, Los Angeles, Cal.  
 731,133.—OIL BURNER—F. Saffell, Fresno, Cal.  
 731,084.—REFLECTOR—H. H. Taylor, San Jose, Cal.  
 731,329.—CAN OPENER—H. Till, Tucson, Ariz.  
 731,143.—BOAT LAUNCHING APPARATUS—S. H. Ury, San Leandro, Cal.  
 731,255.—GAS REGULATOR—C. C. Wilson, Alameda, Cal.

## Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: a record of solid facts.  
 Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH.  
 Price, \$2 Postpaid.

PACIFIC RURAL PRESS,  
 330 MARKET ST., SAN FRANCISCO.

## THE TROTTER HORSE OF AMERICA.

How to Train and Drive Him, with Reminiscences of the Trotting Turf.



By Hiram Woodruff.

The author was one of the most noted horsemen of this country, and in the work before us has given to the public the best thoughts, founded on years of experience in the feeding, handling, breaking and training of colts with a view to securing their best performances. Besides treating of driving horses, it gives a condensed history of the best horses in this country. 12mo. Size, 5 1/2 x 7 1/4 inches. Cloth, extra, \$1. postpaid. Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.

OAKLAND POULTRY YARDS,  
 Breeders of all the Leading Varieties of Fowls.  
 Dept. 21, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

## Breeders' Directory.

## HORSES AND CATTLE.

HOLSTEINS—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

THOMAS WAITE, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

BULLS AND COWS FOR SALE—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

A. J. C. C. JERSEYS. Service bulls of noted strains. Joseph Malliard, San Geronimo, Marin Co., Cal.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAKS & SON, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

JERSEYS—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

THOROUGHbred POLAND-CHINA FOR SALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

FOR SALE—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

SANTA TERESA POULTRY FARM, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

BRONZE TURKEYS. Ed. Hart, Clements, Cal.

## SHEEP.

R. H. CRANE, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

## BREEDERS' SUPPLIES.

GEO. H. CROLEY, 508 Sacramento St., San Francisco. Manufacturer and Dealer in...  
**POULTRY SUPPLIES**  
 of every description. Send for catalogue—FREE.

## Cocoanut Oil Cake.

THE BEST FEED FOR STOCK,  
 CHICKENS AND PIGS.

For sale in lots to suit by  
 EL DORADO LINSEED OIL WORKS CO.  
 208 California St., San Francisco, Cal.

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.

## PACIFIC RURAL PRESS.

330 Market St., San Francisco, Cal.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED.

THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Feeding Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## HOLSTEIN CATTLE.

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders.  
 Large Number of Officially Tested Cows. Bull Calves from Great Producing Dams.  
 Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.

## LIVE OAK STOCK FARM,

Six Miles N. W. from PETALUMA, on the  
 Petaluma and Sebastopol Road.

FRANK A. MECHAM, Prop.

Importer and Breeder of

## Red Polled Cattle.

Color Deep Red. Both Sexes for Sale.

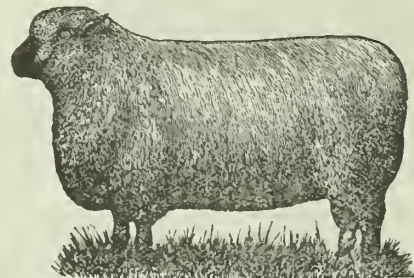
Address all communications PETALUMA, SONOMA CO., CAL.



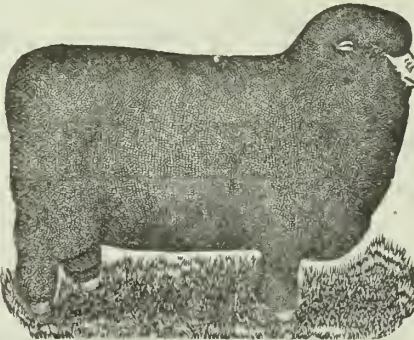
FRANK A. MECHAM,

Importer and Breeder of Shropshire Sheep.

They were all imported from England, or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MECHAM, Importer and Breeder,

Shipping Points: PETALUMA AND SANTA ROSA, SONOMA CO., CAL.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All Inoculated for Texas Fever, at

CHOWCHILLA STOCK FARM.

Address.... ISAAC BIRD, Merced, Cal.

## NO HUMBUG. Three

in One.

Swine V. Hook Marker and Calf Dehorner. Stops swine from rooting. Makes 48 different ear marks. Extracts Horns. Price \$1.50. Send \$1 for trial. If it suits, send balance. Post May 6, 1902. Hog and Calf Holder only 50c.

FARMER BRIGHTON, FAIRFIELD, IOWA.



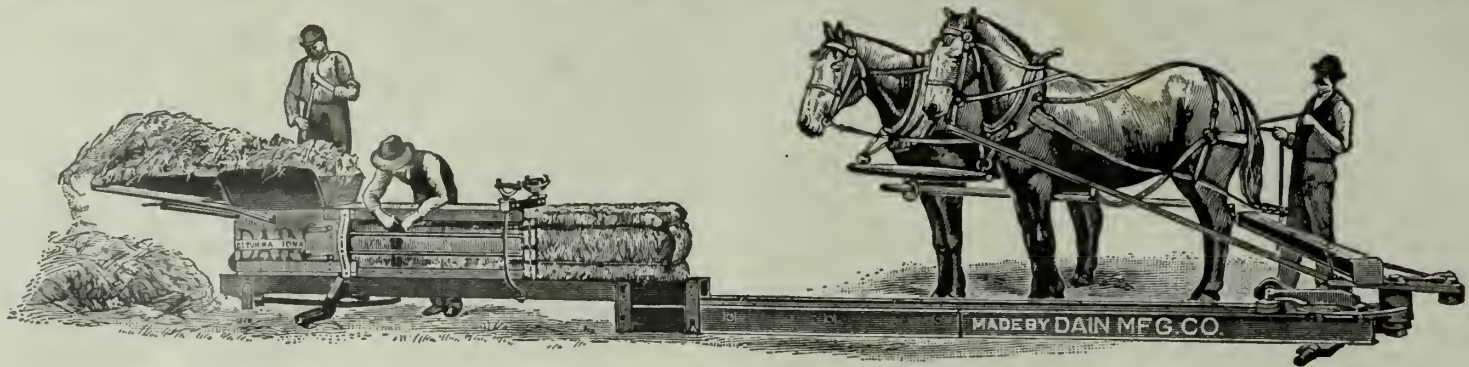
HENRY B. LISTER,

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for  
 New York. Room 14, fourth floor, Mills Building,  
 San Francisco. Telephone Bush 348.



# The Best Press on Earth!



## DAIN'S PULL POWER HAY PRESS.

18x22-inch Bales. Built entirely of Steel and Iron, except the Sweep and Feed Table. Is continuous travel, full circle, making two feeds to each round of the horses. Is the only Press built without a pitman which gives the team the additional power gained by pulling instead of pushing every charge of hay home, and allows of the press being made much simpler and stronger than any pitman press can possibly be made. If you are going to buy a Hay Press, it will be money in your pocket to investigate the DAIN PULL POWER HAY PRESS.

## Deere Implement Co.

209-211 Market Street, SAN FRANCISCO, CAL.

The Unwise Dairyman never thinks when he buys.  
The Wise Dairyman often thinks too long before he buys.  
The Wiser Dairyman buys a De Laval first and thinks afterwards.

### THE DAIRYMAN'S ENDORSEMENT.

400,000 machines in use.  
Ten times the number of all other makes combined.

### De Laval Cream Separators



Combined with patents "Alpha-Disc" and "Split-Wing" improvements. The standard of perfection in modern dairying machines.

Insures purity of product, saves time, labor and worry. Increases the value of every cow.

PERFECTION IN CONSTRUCTION.  
POSITIVE IN PERFORMANCE.  
ECONOMICAL TO MAINTAIN.

A DE LAVAL Catalogue may be had for the asking. A lesson in dairying on every page.

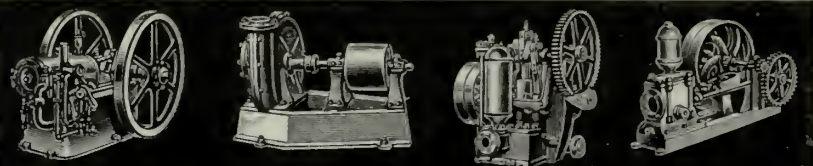
The largest and most complete stock of dairy apparatus and supplies on the Pacific coast carried by us. Full line constantly on hand.

Write for our catalogue—tells you lots about dairying.

DE LAVAL DAIRY SUPPLY COMPANY,

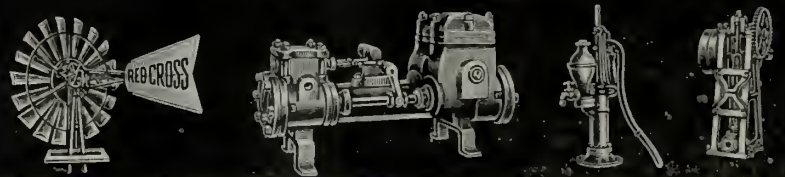
9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE



WOODIN & LITTLE, 312-314 Market Street, SAN FRANCISCO, CALIFORNIA.

DEALERS PUMPS FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITE-WASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.  
WIND MILLS, TANKS, HORSE POWERS.  
IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES, 1/2, 3, 5, 8, 12 HORSE POWER.  
SEND FOR COMPLETE CATALOGUE--MAILED FREE.



### OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)

Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

The Excelsior Redwood Co.

SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.

## W. & P. ROOFING.

Good goods. Easily transported. Easily applied. Perfect covering.  
Let us send you sample.

PACIFIC REFINING & ROOFING CO.

113 New Montgomery St., SAN FRANCISCO.

## PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



# PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 2.

SAN FRANCISCO, SATURDAY, JULY 11, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## California Oaks.

California is rich in oaks, for there are many native species concerning which our botanists have published much information—notably Prof. E. L. Greene, now of Washington, D. C., who wrote a fine monograph about them. But it is not with the general aspect of our oaks that we wish to deal at this time; it is rather with the oak as a forage plant. The reader may find upon another page of this issue the conclusions of a very interesting investigation into the availability and nutritive value of oak leaves from a forage point of view, by Mr. W. W. Mackie, who graduated this year from the College of Agriculture of the University of California and made this investigation his graduating thesis. The subject

pects of the affair are those we have given upon another page.

Mr. Mackie illustrates his work with photographs of the foliage with which he has worked and



Blue or Rock Oak (*Quercus Douglasii*).



Common Scrub Oak (*Quercus dumosa*).

was so unique and the results so interesting that Director Hilgard concluded to publish it in full as a bulletin of the experiment station. The popular as-

they will enable our readers to identify the several trees to which he refers in his comments. First is the Blue Oak or rock oak, which is usually a shrub 4 to 6 feet high, but becomes in better conditions a tree 12 to 20 feet high.

This oak is most abundant in low foothills and dry valleys in all parts of the State. Only goats and sheep browse upon the branches, but its acorns are readily eaten by other live stock.

Another picture shows the Scrub Oak (*Quercus dumosa*), which is a round-topped shrub 5 or 6 feet high, consisting of closely tangled branches starting from the ground. It has harsh, somewhat prickly, leaves, which cattle do not like, but which sheep and goats eat.

A variety of the Scrub Oak has leaves which naturally curl, as clearly shown in another picture. This is known as *Quercus dumosa*, var. *bullata*. It makes the same low-tangled growth as the *dumosa* and lends itself readily to browsing.

Another picture shows the foliage of the Canyon Live Oak (*Quercus wislizeni*). It usually makes a tree of 20 to 40 feet high in the canyons, but upon the slopes is degraded to a shrub seldom higher than 8 feet. It makes, then, a round top and has tangled branches. At another time we shall give other pictures of oaks notable for forage value.



Curl-Leaf Scrub Oak (*Quercus dumosa*, Var. *Bullata*).



Canyon Live Oak (*Quercus wislizeni*).



# PACIFIC RURAL PRESS.

Published Every Saturday at 380 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, July 11, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—California Oaks—Blue or Rock Oak (*Quercus Douglasii*); Common Scrub Oak (*Quercus Dumosa*); Curl-Leaf Scrub Oak (*Quercus Dumosa*, var. *Bullata*); Canyon Live Oak (*Quercus Wislizeni*).

EDITORIAL.—California Oaks, 17. The Week, 18.

QUERIES AND REPLIES.—Depth of Sort and Longevity of Prune Trees; The Disappointing Olive, 18. Fertilizer for Weary Fruit Trees; Codlin Moth Larvæ in Cherries; Tomato Troubles; Apricot Trees Checked at the Beginning; Livelihood From Small Farms; Salt-peter on a Stump; Feeding Alfalfa, 19.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending July 6, 1903; Temperature and Rainfall, 19.

THE VINEYARD.—Unfermented Grape Juice and Its Uses, 20.

FRUIT MARKETING.—Special Consular Reports on Foreign Fruit Crops, 20. The Private Car Line Problem, 21.

THE RANGE.—Value of California Oaks for Browsing Purposes, 21.

THE POULTRY YARD.—Seasonable Suggestions, 22.

AGRICULTURAL REVIEW.—23

THE HOME CIRCLE.—The Barefoot Boy; Why? The Drummer on the Farm; Mark Twain in a Fog, 24. To Get a Good Portrait; The Face and the Collar; Domestic Hints; Hints to Housekeepers; Humorous; The Richest Men, 25.

THE MARKETS.—Produce Market; Fruit Markets, 26.

THE VETERINARIAN.—Texas Fever; Answer to Inquiry—Removable Obstruction in Cow's Teats, 29.

FRUIT PRESERVATION.—Why Not Bitter Orange Marmalade? California Dried Fruits in Germany, 30.

AGRICULTURAL ENGINEER.—How to Get Good Roads, 31.

MISCELLANEOUS.—Uses of Solar Heat, 31.

## The Week.

Our weather report on the opposite page shows that the elements assumed toward the close of last week rather more strenuous activity than is their wont during the California summer. High temperatures and high winds did some injury in shattering out grain and twisting off immature fruit, but, as is common in such affairs, the first impression produced upon the observer is greater than the fact. Though there have been serious individual losses, no doubt, and these call for sympathetic recognition, there was on the whole less waste of fruit than at first imagined, and this is fortunate, for there does not seem to be more fruit than will be wanted this year.

Since the holidays around July 4th business affairs have assumed new spirit, and there is activity discernible in all lines.

Wheat has made a sharp rise. Both spot and futures are to-day far ahead of a week ago—something like 4 cents per cental on options and 4 to 5 cents on spot. There have been no clearances and but two charters, one at 17s. 9d., and another, prior to arrival, for wheat to Belgium on private terms. Barley is higher and in good demand; oats advance in sympathy, the situation being strengthened by the fact that the Government wants 2000 tons, and few new oats are in and they not of high grade. Rye is arriving, but is being talked down, say at \$1.02½@ \$1.07½, with wild rye at \$1.15. Beans are unchanged, quiet and steady. Bran is weak, with a downward tendency, and middlings are lower. Hay is weak for common lots and choice steady. Beef and mutton are steady and unchanged, while hogs are firm, with medium and large still preferred. Strictly select fresh butter is firm, but common lots are not improved. Cheese is firm, with light stocks and fair business. Select fresh eggs are in better tone. Poultry is weak, all but large young stock strictly choice is depressed by the mass of Eastern—three cars of which came in on Monday. Potatoes have fluctuated sharply. On Monday there was a rapid rise owing to Eastern orders, which were cut out, and Tuesday brought a collapse. To-day the situation is weaker than a week ago. Onions are easier, but there is not much change. Fresh fruits are drifting to rather easier prices, except choice cherries and apricots, which are selling well—the latter reaching \$30 per ton for choice, while some fancy are rather better than that. Oranges are of small account, though some Valencias sell well. Choice lemons are firm. Dried apricots are active; carloads of Royal selling at 7½@8c. Six sizes new prunes are reported sold at

2¼@3c. English walnuts have reached 15 cents in a small way. Almonds are quiet and of easy tone. New extracted honey is arriving more freely and is being talked down, but comb is scarce. Hops are easier at the East and quiet here, without change of quotations. Nothing is doing in wool from first hands; 127,000 pounds have gone by steamer to New York and a small lot to Japan.

A very significant thing is the shipment of a California steam plowing outfit to Spain, which is commented upon in the Spanish papers. The receipt of the traction engine and its broad gang of plows created much interest, and people went considerable distances to see the California engine puff up and start across the land, drawing its plows after it by a direct pull, which is so different in style from the English system of cables, headlands and anchorages. Though perhaps the California style is less suited to deep work, it has such capacity for area that Europeans who hope to reform their agriculture on the American plan of doing things in a large way are delighted beyond measure. Last year a California raisin stemmer and grader went to Denia to pack raisins California fashion, and now our style of steam plowing is being followed by the dons. The affairs of 1898 are giving them more respect for us.

Those who wish to use the splendid grapes of California upon unfermented lines should read carefully and practice widely the suggestions given upon another page of this issue. It is quite possible to keep the grape with us all the year, even if we do not like wine, and the grape is a great thing in human experience. It is commendable for the Washington department to follow the lead of our own Experiment Station in popularizing the unfermented product, and to do it in such a way that all can participate without recourse to other than ordinary kitchen paraphernalia.

The California Commissioners to the St. Louis Fair have arranged to kill two birds with one stone in a very effective way. They will have a grand collective exhibit, so placed that it will also enjoy the advantages of being in classified relations. Mr. Filcher reports that in the agricultural building, which contains in its entirety twenty acres of floor space, the California Commission has been granted 40,000 square feet immediately adjacent to the main entrance. In this space we are permitted to exhibit all the natural products of California excepting our woods and our minerals, and even the woods, if deemed desirable, can be worked in in the installation structures. All our cereals, vegetables, fruits, canned goods, dried products, oils, olives, wines, wools, animal and vegetable fibers, and all other articles of natural production can be put together in this department, and it is discretionary with us whether they are installed as country exhibits or as exhibits representing certain geographical subdivisions of the State or as an aggregate State exhibit. On going into the Agricultural building at the main entrance, visitors will have to walk through nearly an acre of California products, on which the word "California" will appear in every direction, before knowing that there is anything else but California in the building. And, what is more, everything in these collective exhibits will be permitted to compete for premiums excepting our fruits. The Commission has secured, however, 8000 square feet of space in the Horticultural building, and expect to have fruits in excess of that required for the collective exhibit to make a strong showing in the horticultural department, where the products can be entered for competition. In other lines, of course, California has also secured space, and in the California building there will be another collective display. It looks as though California would be much in the world's eye in this undertaking.

Fruit shipments overland reached about 1000 carloads by July 4, which is about the same as last year. It has been apprehended that the season's total might be reduced by the effects of last week's wind, but that is still to be seen, and we believe that if prices hold up as much better than last year, as now it seems reasonable to expect, there would be a good record made. We expect much from the grape crop this year, for it is going to be large, and as it is available through so many weeks it will have a good

chance to replace so many Eastern deficiencies. The man who has good fruit this year is likely to sell it well if he does not get caught in picking troubles. There is some apprehension that help will be scarce and the towns should do all they can to help the fruit people out of this difficulty.

Mr. M. Theo. Kearney, the well-known Fresno capitalist and farmer, has started on his usual health and recreation journey to the European springs. He will return sooner than usual this year, however, because he wishes to be here at the time of high-produce values, which he prophesied in our columns recently. Mr. Kearney bores with a big auger both in his work and in his play and we cannot afford to give Europe more than a quarter of his time now that California affairs are so active.

## QUERIES AND REPLIES.

### Depth of Sort and Longevity of Prune Trees.

TO THE EDITOR:—Will you tell me how deep the roots of prune trees go into the soil? I was examining the soil in a ten-year-old orchard to-day with an auger. The surface soil for about 3 feet is excellent. From 3 feet to about 4 feet 9 inches it becomes sandy, with sediment mixed. I then struck a hardpan, through which I managed to bore about 5 inches with no signs of its ending. The trees all look healthy and are mostly on almond and myrobalan root. They have a fair crop on for this year. Would you consider this hardpan detrimental to the trees for the future? I have at present been unable to find out what sort of a crop the orchard has borne other years.—ENQUIRER, San Jose.

Fruit tree roots descend to various depth, depending upon the depth of free soil available and the growth habit of the variety. They have actually been found at a depth of 20 to 25 feet. The soil which you describe, giving an available depth of between 6 and 7 feet above the hardpan, ought to give you satisfactory fruit trees. The intervention of the hardpan layer at that depth is much better than the occurrence of an open gravel would be, because it will hold the water within reach of the trees, and your trees will not probably suffer from drying out during the latter part of the summer, as would be the case if they were located over a gravel stratum. At the same time you must use thorough surface cultivation, to prevent loss of moisture by evaporation, and, as the trees get older, some irrigation will be a decided advantage. Fertilization will have to be resorted to, also, after the trees get to fuller bearing. If you watch carefully, both for ability to make satisfactory amount of new wood each year and to retain good, strong, deep-colored foliage late enough in the autumn, and apply water and fertilizers whenever weakness appears in these respects, there is no reason why the orchard should not continue to be productive and profitable for a great many years to come. Of course, if your land lies on a level, so that the water, in a season of heavy rainfall, rises pretty near to the surface, then you will have to look out for injury to the almond root; but if the land is on a slope and the hardpan on a fairly even grade, so that the surplus water can find escape, probably you will encounter no such difficulty.

### The Disappointing Olive.

TO THE EDITOR:—I have an olive orchard of thirty acres planted on good, loam soil; the trees are now eleven years old and have borne only one light crop—in 1900. They bloom profusely, but fall off and bear but a few scattering berries. The trees are large and are all of one kind (the Mission). Can you tell me why they do not bear? Do olives need fertilizing, same as strawberries? Would you advise close pruning?—GROWER, Merced county.

You should send to the agricultural department of the University of California for publications concerning the condition of the olive in California and the treatment of the olive tree, which you would do well to examine carefully for any application the statements may have to your situation. The Mission olive is usually the most regular bearer we have, and it is also a satisfactory bearer when planted in large blocks, seeming to require cross-pollination less than some other varieties. This being the case, it is likely that the lack of productiveness of your trees is due to some adverse condition occurring during the blooming season. Sometimes the bloom is injured by late frosts; sometimes it seems to be rendered ineffective by the occurrence of hot, dry winds. Pruning



to promote the growth of new wood is sometimes a very desirable recourse, and you will find that discussed in the publications mentioned. As for the unsatisfactory behavior of the olive generally, it must be admitted that there is altogether more of it than is desirable, and that there are many olive orchards which have disappointed their planters. Sometimes this can be accounted for as along the lines of lack of irrigation or pruning or insect killing. Sometimes it seems to be beyond explanation, except on the basis of the occurrence of unfavorable atmospheric conditions. In some places the olive bears well, but in many places it fails to pay for the land it occupies.

#### Fertilizer for Weary Fruit Trees.

TO THE EDITOR:—What fertilizer do I need for land in Santa Cruz mountains on which prunes and grapes have been grown for many years?—READER, San Francisco.

The probability is that you need what is called a complete fertilizer for your land upon which fruit has been grown for some time. The term "complete fertilizer" means a substance containing phosphoric acid, potash and nitrogen, in suitable proportions, and if you secure the announcements of firms advertising fertilizers in our columns you will find that they offer complete fertilizers especially prepared for orchard purposes. One need not worry so much as formerly about getting honest goods in the fertilizer line, because we have a fertilizer control law which will cause manufacturers to be extra careful about their mixtures, as they are subject to heavy penalties if their goods are not up to their representations. We would volunteer the advice that you should also look carefully into the water supply of your fruit trees, for really there is more failure of fruit trees in the Santa Cruz mountains from lack of sufficient moisture in the latter part of the summer than from exhaustion of the soil. If you could arrange to treat some of the trees with the fertilizer and some with summer irrigation, you would have an idea upon which to decide as the special requirement of your own trees.

#### Codlin Moth Larvæ in Cherries.

TO THE EDITOR:—I send six cherries. They have a small worm in them. We have about 200 Royal Ann trees, but only found worms on one of them. It is a very old tree and looks as though it was nearly dead. Is this anything like the cherry worm of the East? We only noticed a few on the tree, perhaps thirty.—GROWER, Sonoma county.

We are glad to assure you that the worm in the cherry is not the worm which does so much injury to cherries in the Eastern States. That one is the larva of the plum curculio, a very hateful beetle, which fortunately has not yet appeared in California, and we hope it never will. The worm in your cherries is the larva of the codlin moth, unless we err in recognition of its half grown form. The moth has struck the cherry by mistake, as it is very rare to find a codlin worm in a cherry, and you need not apprehend that the insect will be a pest to the cherry. There is another worm which has been reported in cherries in California—the larva of a saw fly—but this also is too infrequent to count for anything.

#### Tomato Troubles.

TO THE EDITOR:—Can you give me any information regarding the blight that affects tomatoes? A great many of mine, and also those of my neighbors, just seem to turn yellow and soon die. Can you tell me of something that I can use as a preventive?—READER, Ceres.

If the plants suddenly wilt, without the appearance of yellow spots or black patches on the leaves, the trouble is bacterial, the cause being in the root and out of reach of any medicine. The treatment is to burn such a plant as soon as discovered, because insects may carry the infection to other plants. As the trouble is in the soil, you should change to new ground for your tomatoes each year if possible. If your plants die from apparent spots or patches on the leaves, the disease is fungoid and its spread can be checked by spraying with Bordeaux mixture. This spraying should be begun early in the season in all places where the disease has appeared, so as to protect the next season's young plants.

There is a blight of the tomato, possibly of a different character, for which the late Theodore Staley of Orange county reported a cure to the PACIFIC

RURAL PRESS, and which we repeat in case some reader may like to try it and report results. Mr. Staley wrote:

After losing over half my vines, I took coal tar, or gas tar, and painted on the north side—where it was less exposed to the sun—about 8 or 10 inches, commencing at the ground and painting one-half of the large stems and touching in several places through the branches. The result was a perfect cure. A neighbor lost all his vines but four and a half. I gave him some coal tar and he saved the four, and even the half vine. I had two vines on new land this year that were badly diseased when discovered. I treated them at once, and they have entirely recovered; they have grown as high as the fence and are full of fruit. The disease is a very minute parasite and is not bacteria. They work in the stem near the ground. The coal tar is instant death to them. The fumes may be as deadly as the tar itself.

#### Apricot Trees Checked at the Beginning.

TO THE EDITOR:—I enclose samples of apricot twigs taken from trees set out in January of this year. About half the trees have made a short, stubby growth, with the foliage in condition of sample. The soil is deep, moist, gravelly loam, no hardpan. The old apricot trees on same place are fine, large trees. The trees were irrigated the first of June. I would be greatly obliged if you can tell me the trouble and suggest a remedy.—G. S., San Jose.

From what you say of the soil it would seem certain that something had happened to the trees before planting. Apparently they never made a healthy start, and this could hardly be due to the soil in which they were placed in January, unless possibly you had after planting a soil saturated with cold water. Something happened to the roots either before planting out or shortly after, which prevented healthy growth. It might have been either standing cold water or too great drying between the nursery and the orchard. You are doing the best you can with them. Keep them moist and well cultivated and they may make better growth later.

#### Livelihood from Small Farms.

TO THE EDITOR:—I understand that the number of small farms is increasing in California. Are they generally satisfactory?—READER, New York City.

The small farm is all right if it has good land, cheap water and a man or woman at the head of it who knows how to do many things just in the right way and at the right time. It is wonderful what such a combination can produce under California conditions, but the small farm, as urged by some of our colony promoters, upon lands of questionable value, scant water and utter disregard of the qualities in the small farmer himself which minister to success, is a delusion and a snare. Some of the most ardent haters of California are people who are doing us much harm by adverse reports, because they have been led into undertakings which in the nature of things could not yield the results expected from them.

#### Salt-peter on a Stump.

TO THE EDITOR:—Some one asked how the tree stumps could be made to rot and be easily gotten rid of. I have been told that a handful of salt-peter put in a cup-shaped depression in the top of the stump would penetrate the fiber and make it like punk in the course of a year, so that stump and roots would readily burn out.—B. C. WEYMOUTH.

We also have heard of this prescription, but we have never seen any one who had done it. It always comes in the form of hearsay. We haven't the slightest confidence in it on theoretical grounds, and until some one has actually done the thing we shall proceed to doubt the efficacy of it.

#### Feeding Alfalfa.

TO THE EDITOR:—Will you please tell me what is the best way of feeding alfalfa hay to a cow? This is the first time I ever had that kind of hay and the cow eats very little of it. By feeding her the alfalfa hay will it effect her milk?—WILLIAM LENZDORF, Contra Costa county.

If you begin by feeding your cow alfalfa hay in connection with other hay to which she is accustomed she will, of her own accord, acquire a taste for the alfalfa, which will probably lead her afterwards to prefer it. No animal likes to change quickly to a thing to which she is not accustomed. As for the effect upon the milk, if you begin gradually you may expect only slight changes in the flavor of the milk. There is some difference of opinion as to the desirability of the alfalfa flavor, but in the parts of the State where alfalfa is largely used, there is seldom any

objection made to it. If you can conveniently give your cow access to straw, which she may eat in connection with the alfalfa, it will tend to lessen changes in flavor. By pouring the milk in a thin stream from one vessel to another several times right after milking it will also have a tendency to reduce the alfalfa flavor.

## WEATHER AND CROPS.

### Report of the U. S. Weather Service for Week Ending July 6, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

#### SACRAMENTO VALLEY.

Warm weather prevailed during the week. High northerly winds caused considerable damage to grain and deciduous fruits, but grapes and citrus fruits were not injured. Fires destroyed several hundred acres of grain and much other property. Harvesting and thrashing are progressing rapidly. In some sections early wheat is reported light and of poor quality, and late wheat is very light in all sections. Barley is of good quality and the yield about average. It is reported that the yield of wheat and barley will be materially diminished as a result of the high northerly winds and extensive fires. Hops in Yuba county show some improvement since last report. Apples, pears, apricots, peaches and plums were seriously injured in many places by the high winds, reports from some sections stating that the loss will be 50%. Fruit trees were not badly damaged. Grapes and citrus fruits are in excellent condition.

#### COAST AND BAY SECTIONS.

Warm, dry weather prevailed during the week, causing rapid maturing of fruit and grain. In Santa Rosa on the 3d the maximum temperature was 102°, said to be the highest ever recorded. Strong northerly winds injured ripening fruits in some sections. Field and forest fires caused considerable damage in Sonoma, Napa, Santa Clara and Santa Cruz counties. Harvesting and thrashing are progressing in nearly all sections. Barley and early wheat are turning out very good, though not up to average in some places. Late wheat in some of the northern districts is reported in better condition than expected and will yield a light crop. Corn, hops and potatoes are doing well. Hay baling continues. Grapes are in excellent condition and will yield heavily. Almonds at Cloverdale have filled out well. The damage to deciduous fruits by the high wind has not been definitely ascertained, but is probably quite serious in some sections.

#### SAN JOAQUIN VALLEY.

Clear and warm weather prevailed during the week. High winds prevailed generally Thursday, with sandstorms in the central portion of the valley. The wind caused considerable damage to the grain in the northern portion of the valley. A large amount of grain was destroyed on Union Island by fire on the 2nd. Grain harvesting continues and the grain is being stored. Fruit is ripening rapidly. Apricot drying is progressing. Tragedy prunes, Clyman plums and some early peaches are being marketed. Alfalfa and summer crops are making good growth. Stock are healthy and in good condition. Plenty of water in the irrigating ditches.

#### SOUTHERN CALIFORNIA.

The weather during the week was nearly normal and generally favorable for all crops. Grain harvest is progressing rapidly and thrashing has commenced in some places. Wheat and barley are yielding heavily, and the grain is reported of superior quality. Hay baling continues; the crop is heavy and of good quality. Sugar beets and beans are making satisfactory growth; beet factories have commenced operations in some places. Corn, potatoes and vegetables are doing well. Walnuts at Anaheim are dropping badly. Apricots are said to be of better quality than usual, but the yield is light. Other deciduous fruits are maturing rapidly. Grapes are unusually thrifty, and heavy crops are expected. Citrus fruits are in excellent condition.

EUREKA SUMMARY.—The crops on the bottom lands are much improved and making good growth. Hay harvest is progressing. On high land pastureage is short, hay light and general condition of crops poor.

LOS ANGELES SUMMARY.—Cloudy nights continued in coast section, with clear days. The week was somewhat warmer, but no high temperature. Apricot harvest is on; crop larger than anticipated and better quality than usual.

#### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 8, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.00	T	.23	.02	70	48
Red Bluff.....	.00	.00	.00	T	100	54
Sacramento.....	.00	.00	.00	T	94	54
San Francisco.....	.00	.00	.00	T	91	50
Fresno.....	.00	.01	.00	T	104	54
Independence.....	.00	.00	.00	.01	98	54
San Luis Obispo.....	.00	.00	.00	.00	86	44
Los Angeles.....	.00	.00	.00	T	82	56
San Diego.....	.00	.00	.01	.01	72	58
Yuma.....	.00	.00	.00	.04	110	72



## THE VINEYARD.

### Unfermented Grape Juice and Its Uses.

It is just the time of the year to give our readers who enjoy unfermented drinks some hints which will help them to make acceptable use of the coming grape crop. Mr. George C. Husmann, viticultural expert of the United States Agricultural Department, has prepared a Farmers' Bulletin on the subject, from which we shall take helpful paragraphs:

**HOME MANUFACTURE.**—Use only clean, sound, well-ripened but not overripe grapes. If an ordinary cider mill is at hand, it may be used for crushing and pressing, or the grapes may be crushed and pressed with the hands. If a light-colored juice is desired, put the crushed grapes in a cleanly washed sack and tie up. Then either hang up securely and twist it or let two persons take hold, one on each end of the sack, and twist until the greater part of the juice is expressed. Then gradually heat the juice in a double boiler or a large stone jar in a pan of hot water, so that the juice does not come in direct contact with the fire, at a temperature of 180° F. to 200° F., never above 200° F. It is best to use a thermometer, but if there be none at hand heat the juice until it steams, but do not allow it to boil. Put it in a glass or enameled vessel to settle for twenty-four hours. Carefully drain the juice from the sediment and run it through several thicknesses of clean flannel, or a conic filter made from woolen cloth or felt may be used. This filter is fixed to a hoop of iron, which can be suspended wherever necessary. After this fill into clean bottles. Do not fill entirely, but leave room for the liquid to expand when again heated. Fit a thin board over the bottom of an ordinary wash boiler, set the filled bottles (ordinary glass fruit jars are just as good) in it, fill in with water around the bottles to within about an inch of the tops, and gradually heat it until it is about to simmer. Then take the bottles out and cork or seal immediately. It is a good idea to take the further precaution of sealing the corks over with sealing wax or paraffin to prevent mold germs entering through the corks. Should it be desired to make a red juice, heat the crushed grapes to not above 200° F., strain through a clean cloth or drip bag (no pressure should be used), set away to cool and settle, and proceed the same as with light-colored juice. Many people do not even go to the trouble of letting the juice settle after straining it, but reheat and seal it up immediately, simply setting the vessels away in a cool place in an upright position where they will not be disturbed. The juice is thus allowed to settle, and when wanted for use the clear juice is simply taken off the sediment. Any person familiar with the process of canning fruit can also preserve grape juice, for the principles involved are identical.

One of the leading defects so far found in unfermented juice is that much of it is not clear, a condition which very much detracts from its otherwise attractive appearance, and due to two causes already alluded to. Either the final sterilization in bottles has been at a higher temperature than the preceding one, or the juice has not been properly filtered, or has not been filtered at all. In other cases the juice has been sterilized at such a high temperature that it has a disagreeable, scorched taste. It should be remembered that attempts to sterilize at a temperature above 195° F. are dangerous, so far as the flavor of the finished product is concerned.

Another serious mistake is sometimes made by putting the juice into bottles so large that much of it becomes spoiled before it is used after the bottles are opened. Unfermented grape juice properly made and bottled will keep indefinitely, if it is not exposed to the atmosphere or mold germs, but when a bottle is once opened it should, like canned goods, be used as soon as possible to keep it from spoiling.

**MANUFACTURE OF LARGER QUANTITIES.**—Another method of making unfermented juice, which is often resorted to where a sufficiently large quantity is made at one time, consists in this:

Take a clean keg or barrel (one that has previously been made sweet). Lay this upon a skid consisting of two scantlings or pieces of timber perhaps 20 feet long, in such a manner as to make a runway. Then take a sulphur match, made by dipping strips of clean muslin about 1 inch wide and 10 inches long into melted brimstone, cool it and attach it to a piece of wire fastened in the lower end of a bung and bent over at the end, so as to form a hook. Light the match and by means of the wire suspend it in the barrel, bung the barrel up tight, and allow it to burn as long as it will. Repeat this until fresh sulphur matches will no longer burn in the barrel.

Then take enough fresh grape juice to fill the barrel one-third full, bung up tight, and roll and agitate violently on the skid for a few minutes. Then burn more sulphur matches in it until no more will burn, fill in more juice until the barrel is about two-thirds full; agitate and roll again. Repeat the burning process as before, after which fill the barrel completely with grape juice and roll. The barrel should then be bunged tightly and stored in a cool place with the bung up, and so secured that the package can not be shaken. In the course of a few weeks the

juice will have become clear and can then be racked off and filled into bottles or jars direct, sterilized, and corked or sealed up ready for use. By this method, however, unless skillfully handled, the juice is apt to have a slight taste of the sulphur.

**FLAVOR AND QUALITY IN GRAPE JUICE.**—In the making of unfermented grape juice a great deal of judgment can be displayed and many variations produced, so as to suit almost any taste, by the careful selection of the varieties of grapes from which it is made. From the Mission grape, for instance, when fully ripe, a juice would be obtained that would be delicate and simply sweet, without any other taste; from the Muscat we would get that rich, musky flavor found in our leading raisins; in the Concord, that sprightly, foxy taste so well known; in the Catawba or Isabella, that fragrance so peculiarly their own, and in the Iona a pleasing, mild, yet just pronounced enough aroma and taste to strike the right spot. Thus we might continue along the list.

Equally pronounced variations in color might be had, as, for instance, almost colorless, yellow, orange, light red, red, and a deep purple.

The writer has often been asked what kind of grapes should be used in making unfermented grape juice, when, as a matter of fact, it can be made from any grape. Not only this, but unfermented juice is made from other fruits as well—for instance, apples, pears, cherries and berries of different kinds yield excellent juices. It is really good judgment in selecting the right varieties when planting for fruit production. That also determines the quality of our unfermented juice. For instance, the richer, sweeter and better in quality the fruit we use, the richer, sweeter and better will be our unfermented juice. If, on the other hand, the fruit is sour, green and insipid, the juice will be likewise. As stated before, the intention of this bulletin is to show how to avoid some wastes, and to increase income by utilizing those products of which there is a surplus, and instead of, as is usually done, letting them rot, convert them into something that can be kept, used and disposed of at any time when desired, or when fresh fruit is not available.

**USES OF UNFERMENTED GRAPE JUICE.**—The uses are, indeed, many. It is used in sickness, convalescence, and good health; as a preventive, restorative, and cure; by the young, by persons in the prime of life, and by those in old age. It is used in churches for sacramental purposes; at soda fountains as a cool and refreshing drink; in homes, at hotels, and at restaurants as a dessert, as a food, as a beverage, a dessert, and in many other ways. When people become accustomed to it they rarely give it up. When properly prepared, unfermented grape juice can be made to please the eye by its color and attractive appearance, the sense of smell by its aroma or fragrance, the palate by its pleasant flavor. It is food and drink, refreshment and nourishment, all in one; not a by-product, but made from fruit going to waste, one of the blessings given us that some are too careless, others too ignorant, to make use of.

**FOOD VALUE OF UNFERMENTED GRAPE JUICE.**—The effects of unfermented grape juice on the human system have been studied for a number of years, especially at the so-called grape cures so long in vogue in Europe. A smaller number of investigations have been made in laboratories.

It is quite generally claimed that using a reasonably large amount of unfermented grape juice with an otherwise suitably mixed diet is beneficial, and that digestion is improved, intestinal fermentation diminished, and that gains in body weight result. It should not be forgotten that the abundant diet and hygienic methods of living practiced at the grape cures play an important part, but, even taking all all this into account, it seems fair to conclude that some of the good results can be directly attributed to the unfermented grape juice.

Grape juice contains the same kinds of nutrients as other foods. The percentage of water is high, and thus it resembles liquid foods more closely than solid foods. It is sometimes compared with milk, the most common liquid food. It contains less water than milk, more carbohydrates, and less protein, fat and ash. Carbohydrates, largely present in the form of sugar, are the principal nutritive ingredients. It is evident, therefore, that grape juice is essentially an energy yielding food, and may help the body to become fatter, though it can not materially assist in building nitrogenous tissue. Sugars in moderate amounts are wholesome foods and grape juice offers such material in a reasonably dilute as well as palatable form. Undoubtedly the agreeable flavor increases the appetite, a by no means unimportant consideration. A few good recipes are as follows:

**GRAPE NECTAR.**—Take the juice of 2 lemons and 1 orange, 1 pint of grape juice, 1 small cup of sugar, and a pint of water. Serve ice cold. If served from punch bowl, sliced lemon and orange add to the appearance.

**AN INVALID DRINK.**—Put in the bottom of a wine glass 2 tablespoonfuls of grape juice; add to this the beaten white of 1 egg and a little chopped ice; sprinkle sugar over the top and serve. This is often served in sanitariums.

**GRAPE PUNCH.**—Boil together 1 pound of sugar

and half a pint of water until it spins a thread; take from the fire and when cool add the juice of 6 lemons and a quart of grape juice. Stand aside over night. Serve with plain water, apollinaris or soda water.

**GRAPE SHERBET.**—For eight persons mix 1 pint of grape juice (unfermented), juice of lemon and 1 heaping tablespoonful of gelatine, dissolved in boiling water; freeze quickly; add beaten white of 1 egg just before finish.

**GRAPE ICE CREAM.**—One quart unfermented grape juice, 1 quart of cream, 1 pound of sugar and the juice of 1 lemon.

**SYLLABUB.**—One quart of fresh cream, whites of 4 eggs, 1 glass of grape juice, 2 small cups of powdered sugar; whip half the sugar with the cream, the balance with the eggs; mix well; add grape juice and pour over sweetened strawberries and pineapples, or oranges and bananas. Serve cold.

**BOHEMIAN CREAM.**—One pint thick cream, 1 pint grape juice jelly; stir together; put in cups and set on ice. Serve with lady fingers.

Besides the recipes just given many more are enumerated, such as grape ice, grape lemonade, grape water ice, grape juice and egg, baked bananas, snow pudding, grape gelatine, junket and grape jelly, tutti frutti jelly, grape float, grape jelly, grape juice plain, grape soda water, and scores of others.

## FRUIT MARKETING.

### Special Consular Reports on Foreign Fruit Crops.

Special Reports by the Pacific Commercial Museum of San Francisco for the PACIFIC RURAL PRESS.

#### ITALIAN SUMMER LEMON CROP.

The present conditions and prospects of the summer lemon crop are good in quality but scarce in quantity. They compare favorably with those of last year and are of the usual quality, but the quantity is about one-third less than that of last year. They are of usual size. Ripe lemons are about at an end. Verdelli are abundant. Prices since last week are rather high, viz: Ripe lemons, from 15 to 18 lire per 1080 fruits; May lemons, from 20 to 22 lire; Verdelli, from 26 to 27 lire. The freight rates to American ports are 1s 3d per box. The lire is valued at 19.3 cents U. S. gold. JAMES JOHNSTON, U. S. Consul. Palermo, Italy, May 25, 1903.

#### GREEK CURRANT CROP.

The prospects for the currant crop of this year are 320,000,000 to 330,000,000 pounds. The crop of last year at this date was about the same. The average is also about the same. The stocks of last year's crop in hands of the local merchants are estimated to be 40,000,000 pounds and that in the foreign countries of consumption 30,000,000 pounds. No special remark is to be made on freight rates to American ports. They will be the same as last year.

The question of the currant monopoly is largely discussed and it seems that the propositions of the English syndicate will be accepted. An agreement between the Government and the English syndicate has been completed and is submitted to the Chamber of Deputies. D. MAXIMOS, U. S. Vice-Consul. Patras, Greece, June 1, 1903.

#### THE RAISIN CROP OF MALAGA.

Reports from reliable sources indicate that the Malaga raisin production of 1903 will exceed in size the 1,000,000 box crop of last year, which was rated as the largest yield for fifteen years.

This is the present outlook, conditional upon the prevalence of favorable weather from now on until the first week in September, when the raisins are prepared for shipment. Advices received from the surrounding country are to the effect that the vines at present are burdened with fruit to an extent unknown for many years. Optimistic growers profess to believe that the forthcoming crop will reach 1,500,000 22-pound boxes. These figures are, however, in the opinion of local exporters, somewhat too high, even in the face of exceptionally fine weather conditions.

An authentic idea of the opening prices can not be made at this writing, as, to a large extent, they depend much upon the condition of the raisin crops of Denia and Smyrna. At present the local dealers know but little of the prospects for Smyrna raisins; but reports from Denia indicate a fair crop. Similar conditions prevailed at the latter place at a corresponding date last year, but an exceptionally hot wind from the north, known to growers as "the wave of fire," swept over the district and destroyed one-quarter of the crop in one night. This circumstance, so unfortunate for Denia growers, considerably "boomed" the Malaga market, with the result that Malaga prices opened high and remained so during the entire season of 1902, and closing, as one local dealer expressed it, "absurdly" high. The prevalence of high prices, linked with an abundant crop, was a most unusual condition.

While a definite forecast of first prices can not now be made for the above reasons, a glance at the market prices at the opening of the three past seasons may provide an idea of what may be expected during



the coming vintage. The opening prices were as follows:

	1900. *Pesetas.	1901. *Pesetas.	1902. *Pesetas.
Imperial clusters.....	19	19	20
Royal ".....	15.50	15	15.50
Dessert ".....	12.50	12.50	13
Connosseurs, clusters.....	9	9	9
London Layers, clusters.....	6.50	6.50	6.50
5-crown, loose.....	12.50	12.50	12.50
4-crown ".....	9	8.75	9.50
3-crown ".....	7	7	7
2-crown ".....	6	5.50	5.50

\*The pesetas is valued at about 14 cents U. S. gold.

At present but few boxes of last year's large crop remain unsold. The small quantity remaining is of inferior grade.

During the calendar year ending Dec. 31, 1902, 83,332 boxes and 6777 cases of raisins were exported to the United States from the port of Malaga, as compared with 76,000 boxes in 1901.

Present freight charges for the ton of 90 boxes of raisins are 40 shillings to New York, 49 shillings to Philadelphia and 44 shillings to Boston; but competition during the busy season somewhat reduces these rates.

D. R. BIRCH, U. S. Consul.

Malaga, Spain, June 3, 1903.

#### RAISIN CROP OF VALENCIA.

Present prospects for raisins are exceptionally hopeful, and, under a continuance of favorable weather conditions, point to a crop of 600,000 cwts., as compared with 380,000 cwts. in 1902, 495,000 in 1901 and 587,200 in 1900. Flowering has been very abundant, and with the exception of a hailstorm on May 12, which destroyed about 25,000 cwts. on the extreme outer border of the vine zone, the first critical period has been passed under excellent weather conditions.

No stocks remain whatever in the district, and in foreign European markets are practically exhausted, only 200 tons remaining in London, and freights have ebbed low all through the present fruit season—13s to 16s 3d per ton of 13 boxes oranges to British and German ports—and it is probable that raisin freights to the United States in the coming season will not exceed 25s to 35s per ton.

It should, of course, be remembered by California growers that the early promises of big raisin crops in this district are seldom fulfilled. The period of growth between the formation and harvesting of raisin grapes is particularly exposed to brusque meteorological changes, and a hot wave, a hailstorm or protracted drought frequently reverses the fairest prospects.

J. E. BYRNE, U. S. Vice and Deputy Consul.  
Valencia, Spain, June 3, 1903.

#### FOREIGN ALMOND MARKET AT MARSEILLES.

One of my most reliable informants, located at Aix, in Provence, the principal almond market of France, advises me, under date of May 26, as follows:

"Replying to your inquiry of May 25, I have to say that the frosts of the 15th and 20th of May, and particularly those of the latter date, have seriously damaged the growing crop in this region. We shall have probably one-fourth of the ordinary crop; last year we had a half crop. A good average crop should give to us in France from 25,000 to 30,000 bales. If we have not been favored in Provence with good weather, the contrary seems to be true in countries round about. Spain should furnish this year a very large quantity of almonds. The crop in Italy also will be very good, particularly in Sicily and at Bari. As we receive in Aix a large quantity of almonds from Italy, Spain, Morocco and the Levant, and subsequently remove the kernels, classify them and subject them to the industrial preparation which public taste requires, it is fair to assume that the exportations from this market to the United States will undergo no diminution. Such is our sincere belief, in spite of the bad perspective in this immediate region."

Another correspondent in Aix confirms the foregoing crop prognostication, but places the total of the growing crop in Provence at one-third of an average. "All in all," writes this correspondent, "the crop of 1903 will be good. The stocks in hand are rather lower than at the same time last year. Prices for delivery are in general 50 francs (\$9.65) below those of 1902, as the following table shows:

	May, 1902.	Sept.-Oct., 1902.	May, 1903.	Sept.-Oct., 1903.
Shelled Almonds. *Francs.				
Provence.....	170	215	165	165
Majorca.....	155	200	150	140
Valencia.....	160	210	160	150
Bari.....	165	215	162	160
Girgenti.....	160	215	160	155

\*The franc is worth 19.3 cents in U. S. gold.

"If it is true that stocks held by consumers are reduced to nothing, in anticipation of the removal of the duties upon sugar; if it is, furthermore, true that in the minds of buyers a very large crop this year is anticipated, and that, in consequence, they will do no more buying until the material in hand is completely exhausted, then it may very well happen that when the demand reasserts itself from all directions at the same time, in September and October, that prices can rise rapidly. If, on the other hand, buyers mani-

fest no impatience to close in September and October, there may be a drop of from 10 to 15 francs. Speculators can take either horn of the dilemma."

The largest dealer in Marseilles tells me that there will be a half crop of shelled almonds in this region and one-third crop of almonds in the shell. He puts comparative prices as follows:

	1903. Francs.	1902. Francs.
PER 100 KILOS (220.4 POUNDS).		
Princess almonds.....	200	160
Hard ".....	40	33
Ala Dame ".....	90	85
Provence shelled.....	205	190

A particularly well-informed Spanish correspondent put the situation as follows:

Italy: Everything points to a good crop in Sicily and Sardinia. In La Pouille cold weather of April has diminished the prospective crop, which previously promised well. Nevertheless, we may expect a good half crop in the region about Bari.

Spain: From the Balearic islands a good crop is announced, and we have the same news from the Province of Alicante and the coast of Tarragona. Some damage has been done in Aragon by bad weather, but not sufficient to affect the general results.

Portugal: Very optimistic information is received from all quarters.

Morocco: Definite information is wanting, but fairly good crop is anticipated.

France: In Provence late frosts did a great deal of damage and one-third crop is anticipated.

ROBERT P. SKINNER, U. S. Consul-General.

Marseilles, June 2, 1903.

#### ALMOND CROP AT MALAGA, SPAIN.

The present outlook for the Malaga almond crop of 1903 gives promise for one of the largest yields of many years. American interest in the Malaga market probably centers in the grade of almonds known to commerce as the Jordan, which is grown only in this immediate vicinity. Since 1899 the Jordan crop has been short—last year unusually so, owing to frosts during the spring of 1902 that froze many buds. While it is most difficult to ascertain with any degree of certainty the extent, measured by boxes, of any season's yield, an approximate of last year's output is from 40,000 to 50,000 boxes.

Reliable advices place the coming crop of Jordans at double that of last year, and leading firms here express themselves as being prepared for an output of 100,000 boxes. Recent reports from the growing districts are to the effect that, owing to some peculiar action of the fog in the lower lands, many almonds are dropping from the trees. This, information if true, may slightly reduce the estimate of the size of the crop, while, on the other hand, it may be only an attempt to "bull" opening prices.

Local experts say that without doubt the crop is now secure and immune from ordinary weather conditions. Consequently, if these prospects are realized, the 1903 price will inevitably be much lower than that of last season's figures.

The last sales of 1902 almonds made a few days ago were at about \$9.25 for Jordans and \$4.75 for Valencias, cost and freight New York. These prices are for the box of 25 pounds of Jordans and 28 pounds of Valencias. About 75% of the Jordans exported to the United States are of the grade known as "Confectioner's Jordans." The rate quoted above was for this quality. The same almonds sold during the past season at from \$8.25 to \$10.50 the box of 25 pounds, cost and freight New York, while during 1901 the price ranged from \$6.50 to \$8.25 for the same quality and quantity.

Valencia almonds are never difficult of purchase, for the reason that they are produced along the entire coast of southern Spain. This grade will also be more abundant during the coming season than for several years past. The stock of 1902 Jordans now in Malaga warehouses probably does not exceed 500 boxes.

During the year ending Dec. 31, 1902, 27,486 boxes and 50 bags of Jordans and 37,649 boxes and 110 bags of Valencias were exported from Malaga to the United States, as against 30,000 boxes of Jordans and 35,000 boxes of Valencias during the year 1901.

The present freight rates for the ton of 80 boxes of almonds are 40s to New York, 49s to Philadelphia and 44s to Boston; but these figures are somewhat reduced by competition vintage season.

D. R. BIRCH, U. S. Consul.

Malaga, Spain, June 3, 1903.

#### FRENCH WALNUT PROSPECTS.

The walnut dealers of Marseilles depend for information upon their correspondents in the Grenoble region, in order to form any conclusion respecting crop prospects. It is altogether too early to obtain any satisfactory idea regarding the next crop.

Present appearances suggest that the yield will be fairly abundant, but late. The nuts have just commenced to form and are satisfactory in appearance. The fear is expressed that because of the excessive heat of the early summer the fruit may drop from the trees without ripening.

ROBERT P. SKINNER, U. S. Consul-General.  
Marseilles, June 2, 1903.

#### The Private Car Line Problem.

This question has given California shippers much concern and the private ownership of cars has drawn large sums of money which should go to those directly engaged in production and handling. Just how the private car lines stand in effects upon the traffic of the country can be discerned from the following references to them in the last report of the Interstate Commerce Commission, a copy of which has just come to hand. The following is the full discussion which the report gives to the subject:

In an agreement to abolish mileage payments the railroads were unable to include cars owned by private parties, such as dressed beef and fruit shippers, the coal and other mining companies, the cattle car and oil car companies, and the one fast freight line which runs cars not owned by the railroads. This failure to agree perpetuates a long standing abuse, which has been referred to in previous annual reports of the commission. Many of these cars, particularly refrigerator cars for fruit and for fresh meats, and live stock cars, are used mostly for long journeys made at maximum speed, so that a mileage charge far below the average would provide a very liberal income on the amount invested in the car, while the rental actually paid on such cars is usually 7½ mills a mile, or 1½ mill higher than the railroad companies paid to each other under the mileage system. Thus the shipper who provides his own cars receives such large sums in mileage that the excess is substantially equivalent to a rebate on the transportation charges, and to that extent a discrimination against shippers of similar goods who do not furnish cars. Furthermore, shippers who send out many carloads from competitive points, like Kansas City and Chicago, are able to use, and by common report have used, their cars as a means of securing reductions in the transportation rate. A carrier refusing to pay the mileage which a shipper demands is threatened with the loss of the traffic; and in times of slack business the abuse has in many cases been aggravated by the sending out of cars loaded to much less than their full capacity, for the purpose of securing mileage on cars which would otherwise stand idle.

It is understood that the proposition to abolish mileage on private cars was blocked by time contracts under which certain carriers had agreed to pay mileage rates for shippers' cars. While many railroad managers frown on these contracts because of their inequitable nature, and endeavor to dissuade competing carriers from making them, others assert that in spite of the high charges which they have to pay for these special cars they are obliged to continue the arrangement because the traffic for which the cars are required is so intermittent in character that it would be still more costly for the railroad company to provide the cars itself. A railroad needing several hundred refrigerator cars for two or three months in the year, and having no use for them during the remaining nine or ten months, finds that to own the necessary supply of such cars would be very expensive. In so far as this is true the "private car evil" may not be altogether an evil, but there still remains the question of the abolition of the abuses which we have mentioned. The magnitude of the interests involved is indicated by the statement recently made by Mr. J. W. Midgley, a competent observer, that the estimated number of private cars in use in the freight service of the country, embracing refrigerator, box, tank, stock, coal, flat, furniture, poultry, and unclassified, is 130,846—a number equal to nearly one-tenth of the total freight cars owned by the railroads. The estimated value of these cars is \$84,554,750. During the year ending June 30, 1901, the carriers reporting to the commission their payments for the use of private cars, paid out for this purpose a sum in excess of \$12,000,000. The owners of these cars, collecting these enormous sums, and able to exert an influence on freight rates affecting many millions of dollars in transportation charges, are not common carriers and are not subject to the act to regulate commerce, and no public authority supervises their accounts. This is a matter of grave importance which may well engage the attention of the Congress.

#### THE RANGE.

##### Value of California Oaks for Browsing Purposes.

By W. W. MACKIE in Bulletin 150 of the University of California Experiment Station.

In summing up the value of California oaks, the common classification into "live," or evergreen, and deciduous will be made. The former class includes scrub oak and curl-leaf scrub oak (*Quercus dumosa* and variety *bullata*), canyon live oak (*Q. wislizeni*), and maul oak (*Q. chrysolepis*). The deciduous oaks consist of blue, or rock oak (*Q. douglasii*), black oak (*Q. californica*), and mountain white oak (*Q. garryana*). The poison oak (*Rhus diversiloba*) is also deciduous.

The live oaks occupy the brush areas on the slopes



and ridges, and, except for a few isolated specimens of *Quercus chrysolepis*, never grow within the timbered, or coniferous, belt. These live oaks, therefore, occupy a continuous belt of country which is free from snow except for occasional short periods. This belt, for this reason, is used as a winter range for holding over stock when feed is scarce in the valleys and deep snows cover the mountains. Sheep and goats are kept in good condition on these live oaks, but cattle and horses do not eat them to any extent until other food cannot be obtained. Then this "browse" keeps them in feed until other kinds are available.

The deciduous oaks, not taking into account the *Quercus douglasii*, which is of little forage value, are found in the timber belt or above it. The leaves of the deciduous oaks, in contrast to the harsh spinescent ones of the live oaks, are larger, lobed and soft. This enables cattle and horses to eat them with ease, as is also true of sheep and goats. They actually fatten on the leaves of the black oak and white mountain oak of these upper ridges and peaks.

**NUTRITIVE VALUE OF THE LEAVES.**—From the observations just made concerning these several species of oaks, it would seem that the nutritive value increases with the altitude. To verify this, and to ascertain if possible their relative food values, a chemical analysis of each species was made.

For the purpose of this analysis the leaves were gathered during the month of September, when they were fully mature. Only those which were green and vigorous were taken.

It would seem that the irritating and poisonous oil of poison oak (*Rhus diversiloba*) is volatile at a comparatively low temperature. In gathering the specimen the writer was badly poisoned, even though gloves were worn; yet after drying at ordinary room temperature, and the leaves pressed into the mill with bare hands, no poisoning effects followed.

In the discussion of the chemical analysis of these species, alfalfa hay is selected for comparison because alfalfa seems to be the best and commonest forage plant in California. A comparison with this plant, then, naturally sets forth the value of oak leaves for forage to better advantage than a comparison with any other stock food.

**ASH CONTENT.**—In comparing the ash content of oak leaves and alfalfa, it is noted that the ash of oak varies but little in various species. This variation is not more than four-tenths of 1%, while the average ash for all the species is somewhat greater than 8.75%. This percentage is 2½% greater than in alfalfa hay.

As all the mineral, and hence the bone forming, materials of the plant are in the ash, oak leaves have thus a greater value for growing stock than has alfalfa.

**PROTEIN CONTENT.**—Proceeding to the protein, or muscle forming content, greater variations are encountered. The comparison shows alfalfa to contain more than twice as much protein as any of the oaks, with the exception of two species, *Quercus wislizeni* and *Q. garryana*. The former averages 10.11% and the latter 14.04%. *Quercus garryana*, therefore, approaches alfalfa closely. The other species, though falling far below alfalfa, are not poor in protein. The average is nearly 8%, which is one-half of 1% higher than oat hay—the best of cereal hays.

These analyses indicate that oak leaves are superior in muscle forming ingredients to non-leguminous hay; that one species (*Quercus wislizeni*) is equal to bur-clover hay; and the best species (*Quercus garryana*) almost equal to alfalfa hay.

**CRUDE FIBER.**—In oak leaves the crude fiber is as variable as the protein, ranging from over 30% in *Quercus douglasii* to 15% in *Q. garryana*. With the exception of two of the deciduous oaks, *Quercus californica* and *Q. garryana*, the oak leaves are considerably higher in crude fiber than alfalfa. This crude fiber, or roughage, in oaks tends to produce a wide nutritive ration.

**FAT.**—The fat, or more correctly speaking, the ether extract, is considerably higher than in alfalfa in all the species, and increases to twice as much in *Quercus wislizeni* and *Q. californica*. This ether extract does not represent pure fat, but includes the chlorophyll, waxes and resins, which cannot be separated from the true fat. These waxes and resins serve to protect the leaves from drying winds and inclement weather, and usually occur in the tomentum or pubescence which cover some leaves. In some cases, as in *Quercus californica*, the waxes and resins are distasteful to stock, thus decreasing their forage value.

**STARCH, ETC.**—In oaks the nitrogen-free extract, consisting of starch, sugars, pentosans, etc., does not equal alfalfa in any species, and in scrub oak falls as far below as 10%. This fact indicates a lower fattening and heat producing power than in alfalfa.

**TANNIN.**—Tannin is an astringent principle found in many plants. Aside from its astringent properties, it is acid, and therefore offensive to the palates of animals. In the stomach, it precipitates the pepsin and peptones, thus preventing the formation of dextrose and hindering digestion. Great thirst and constriction in the digestive tract usually follow an overdose of it. These effects are not so marked in

some tannins as in others, for some do not have so great a precipitating power as do others.

In determining the tannins in the oaks, it was found to vary greatly in the different species, but did not serve as an infallible indication of the value of the leaves for forage. For example, *Quercus douglasii*, which is the poorest forage oak analyzed, is lowest in tannin, while *Q. dumosa*, a species preferred by sheep and goats, contains 13%, the largest amount of tannin determined in any one species.

The average of tannin for all the oaks is a little over 10%. In tasting the powdered specimens of the various species, the intensity of acidity perceived coincides with the tannin percentages. In comparison with oak leaves, alfalfa contains an inappreciable amount of tannin.

**WATER.**—Although the water content of the oak leaves was placed on an alfalfa hay basis, this does not indicate their true comparison when both are green. Green alfalfa contains 80% of water, which is from 10% to 20% higher than that in the various species of oaks. This shows the oak leaves to be a somewhat more concentrated feed in regard to protein, ash and nitrogen-free extract, than appears in the comparison on an alfalfa hay basis.

**INJURIOUS CONSTITUENTS.**—Judging from the results of the chemical analyses of these oak leaves, they would seem to occupy a high place among forage plants. This would be the case were it not for excessive amount of three of the chemical constituents; namely, crude fiber, resins and waxes, and tannin.

The high percentage of crude fiber taken together with the low percentage of nitrogen-free extract produces a coarser and less nutritious feed than leguminous crops.

The resins have pungent and disagreeable flavors, which render them distasteful to stock. A good example of this is seen in the *Quercus californica*, before cited. The leaves of the young trees and shrubs of this species contain no more tannin than those of most of the other species, are only 1½% below alfalfa in nitrogen-free extract, have a fair amount of protein, are low in crude fiber, and are large and soft. These qualities should produce a feed superior to oat hay. This is not the case, however, for stock avoid it to a great extent on account of the resins and waxes in the dense tomentum covering the leaves. These waxes and resins serve as a protection against drying winds and severe weather, and all the oaks have more or less of them.

As compared with the crude fiber and resins, tannin of oak leaves, as before stated, is not only bitter and astringent, but interferes with digestion.

**CONCLUSION.**—In summing up the value of the forage oaks, from chemical analyses and observations in the field, the conclusion is reached that the facts observed in the field coincide in most cases with those determined by analysis. For instance, the deciduous oaks possess a higher nutritive value than the live oaks and are, as would be expected, more readily eaten by horses, cattle, sheep and goats. In some cases, however, certain physical conditions modify these relations. This is true in the case of the live oaks. These contain a sufficiently high proportion of nutrients, and yet only sheep and goats thrive upon them. This is due to the thick, harsh leaves with their spinescent teeth, which prevent horses and cattle from relishing them.

**PASTURING OAKS.**—Although all stock prefer the deciduous oaks of the higher altitudes, yet indiscriminate pasturing causes much damage to the forests and ground cover. When sheep and goats are allowed to browse on the deciduous oaks of the timbered area, they kill the seedling conifers by nibbling and trampling, kill the shrubs by over-browsing, and cut up the slopes in trails which become deep gullies during the rainy season. This could be avoided by pasturing the sheep and goats on the "live oaks" of the lower chaparral or brush areas, the only necessary precaution being to prevent too many congregating in one place, thus avoiding too much trampling and gullying.

Since cattle and horses are unable to thrive on the live oaks, and since they do not browse close enough to kill shrubs, never browse on young conifers, nor cut up slopes by trails, they may profitably be pastured on timbered areas and on the higher altitudes.

Thus, this oak area, comprising half the whole State, can, by a conservative and well regulated system of browsing, be made to pasture sheep and goats throughout the year, and all stock during the summer months; and also during seasons of drought or when winter conditions make other feed inaccessible.

## THE POULTRY YARD.

### Seasonable Suggestions.

**TO THE EDITOR:**—He who best cares for his poultry this hot weather will surely receive the largest returns. Careful attention to the wants of the younger chickens, keeping in mind as well the needs of the older fowls, is needed at all seasons of the year, but the warm weather of summer calls for especial care. Much is said and written about the food best adapted to fowls of all ages, but little is said about their drink. Fowls will need a liberal supply of

water during the heated term and loss will certainly accrue to the flock if this allowance is cut short.

Not every one can provide running water in the yards, and there are comparatively few who can pipe water to their fowls. One great desideratum is a drinking vessel which may be easily cleaned. Cleanliness here is absolutely necessary. The earthen fountain having a detachable saucer is excellent. There is a pattern of galvanized iron fountain made in Petaluma, the lower portion of which is hinged to the main receptacle, which is very handy. But any one can provide a cheap drinking vessel by taking a common coal oil can—five gallons—and having made a small opening on one side near the edge, opposite the faucet, in order to fill the can with water, place it on the other side on a block of wood 2 or 3 inches from the ground. Open the faucet just enough to allow the water to drop slowly into a shallow vessel placed beneath. This can, full of water, will last the flock a long time, but fresh drink should be provided once a day at least.

Young, half-grown chickens, as well as the older birds, will frequently have swelled heads, or roup even, this warm weather, if care is not taken to prevent. The writer recently, in making a visit to several poultry plants, noticed quite a number of chicks thus afflicted. There is much said about the cure of colds and roup, and in the market there are many preparations for the recovery of the fowls thus afflicted. That there is a large demand for these remedies is evidenced by the great number advertised in poultry journals. In the Eastern States the troubles mentioned may result in great part from the rigorous climate, but there is little excuse for this sickness in this part of California.

**THE POULTRY INQUIRY.**—It is gratifying to the large number of poultrymen residing in the vicinity of Petaluma, especially, that a poultry experimental station is to be located near that enterprising town. This is a matter that greatly interests those who keep poultry in all parts of this State. We have good reason to expect very valuable results to accrue from the work which will be undertaken at the aforesaid station.

One of the first undertakings will be the study of the diseases to which fowls are subject in this portion of the State. This work, we believe, has already commenced. But while it will be exceedingly interesting to know the remedies best adapted to the cure of swelled head, roup and other maladies, the fact that prevention is far better than cure must not be forgotten. It has been said that it is a manly act to make an apology when wrong has been done another; that it is nobler not to give occasion for apology. So as regards the cure and prevention of diseases.

The establishment of experimental stations in this State is a step well taken. The selection of Petaluma seems to be a wise one, the best probably that could be made. The residents of California have not yet fully awakened to the grand possibilities that here exist for the rapid enlargement of poultry farming. In a very few years Petaluma has attained a remarkable reputation as a poultry producing locality. Practically this business has, in great measure, made that town what it is to-day. There are countless localities within the borders of our State which could as well build up a very large business in eggs and poultry as Petaluma. There is probably no place in California where the industry can be so profitably studied as in the town named.

**THE INDUSTRY.**—If ever it was a fact that the goose laid the golden egg it is not now. In these days and on this coast it is the hen. Speaking in general terms it is the popular White Leghorn bird that has won this reputation. When the daily payments for eggs and poultry in any one town no larger than Petaluma amounts to \$3000, as is claimed for that town, the fact that it is she that lays golden eggs is clearly demonstrated.

As to the large volume of this industry in the country at large, the current year book of the Department of Agriculture sets forth that there are in the United States 251,000,000 fowls valued at \$70,000,000. Income from same in one year: Poultry, \$187,000,000; eggs, \$145,000,000. It is only when we compare this great industry with others at hand that we gain some slight idea of its immense volume. So when it is stated on the authority named that the value of the egg product of the several States will about equal the combined gold and silver product of the entire country in 1903 one wonders at the unthought-of value of the modest hen as a money producer.

"There will be produced on the farms of the country during the twelve-month about 45,000,000 cases of eggs, each case containing thirty dozens. An ordinary refrigerator car contains 400 cases, which means that a train of these cars long enough to carry the eggs laid this year would be 870 miles in length, and if made continuous would reach from Chicago to Washington, with several miles to spare."

Napa.

A. WARREN ROBINSON.

THE Harbor Commission has instructed its attorney to report as to whether or not the water front property can legally be used for the purposes of a free market, which it is proposed to erect thereon, in accordance with the law of 1903.



## Agricultural Review.

### ALAMEDA.

**BETTER PRICES FOR BEETS.**—Niles Herald: The Alameda Sugar Co., which has a large factory at Alvarado, announces that it will contract for beets for 1904 at \$5 per ton delivered. This will be good news to the growers in this vicinity as well as those farther away who ship there every year. The company began at \$4.50 per ton and kept this price until two years ago, when it raised to \$4.75, and now this second raise is made.

### BUTTE.

**SMYRNA FIGS FOR CANNING.**—Gridley Herald: The Gridley cannery is about to engage in the packing of Smyrna figs and has engaged twenty tons for that purpose, and for which they pay \$82 per ton delivered. The figs will be packed in cans with the natural juices still preserved in them, not packed in boxes after having been dried. The packing of figs in the undried state is practically a new undertaking in the fruit industry, and it opens up new possibilities that mean a good deal to the whole State of California.

### COLUSA.

**EFFECT OF PRUNING FRUIT TREES.**—Sun: Mrs. Herni, from the Brentwood farm, has sent in some branches showing the effect of pruning trees. A tree was left unpruned, while the others were pruned. They were precisely alike to begin on, and subject to precisely the same treatment, but those from the pruned trees weighed just double those from the unpruned trees. Strictly fair samples were taken from each, because it was a test of the value of pruning. Now, as the larger apricots are worth more than double as much per pound as the others, the value of the pruning may be estimated.

### CONTRA COSTA.

**WILL GROW CELERY.**—Brentwood Gazette: Parties from Los Angeles have leased eighty acres of land on Jersey Island and are now preparing the same for the purpose of growing celery. If the experiment proves successful, and no doubt it will, it is the intention of the new comers to plant several hundred acres of the culinary plant.

### FRESNO.

**RETURNS FROM HAY AND FIGS.**—Reedley Exponent: Eighteen acres, 8 miles north of Reedley, produced this season 140,520 pounds of hay, which netted the owners \$421.56. The crop was sold standing for \$6 per ton. The above shows that there is a fair profit even in raising hay on the lands in this vicinity, but how much larger would have been the profit had this eighteen acres been planted to fruit, say fig trees, to the production of which it is admirably adapted. A half mile from the business center of Reedley, George Ingram owns an orchard and vineyard. On his place he has, besides other fruits, 350 fig trees. Last week he sold the crop of figs on the trees for \$500, the purchasers to do all the work of picking, etc.

**THE WATERMELON CROP.**—Republican: The melon crop this year is reported late. This is particularly true in this vicinity. 'Dolph Shields, who succeeded M. M. Parsons on the watermelon throne, says his melons have been kept back by the cold nights of this exceptional year. Usually there are melons in the local market by the latter part of June or the 1st of July. The watermelon crop this year promises to be unusually large, as a good many new patches have been put out. While the crop immediately around Fresno is somewhat backward, this is not true of the melons around Sultana, where the crop is said to be very promising. There is little likelihood of a melon association this year. There has been some preliminary talk of an association, but it has not developed into any action and is not likely to. There was not an association last year either, but the year before there was a very successful combine, when the growers made more money than they ever did before or since.

**DRYING APRICOTS.**—Sanger Herald: Many of the orchardists hereabout are busily engaged in drying their apricots, the yield being quite satisfactory, although the fruit is generally of small size. Buyers are numerous, offers of 7@8c per pound being made for the dried product, at which price there is a fair profit for the producer. Women and girls are doing the cutting at 7 cents per box, and it keeps them hustling from morning till night to cut ten boxes of fruit a day.

### KINGS.

**CANNERY PRICES FOR FRUIT.**—Hanford Journal: The Hanford cannery is buying apricots and paying \$20 per ton for the fruit. This is taking all of a crop from an orchard, the fruit taken not to be overripe and to be of suitable size for can-

ning. The cannery people are buying peaches for drying, paying \$12 per ton for whole crops of fruit. The manager states that it has not yet been decided whether there will be any canning of peaches done this year at the cannery. So far nothing but drying has been done.

**BARLEY AND WHEAT YIELDS.**—Le-moore Leader: The big combined harvester of Frank Blakeley will be put in operation the latter part of the week in the grain fields of Mr. Blakeley, on the east side of Kings river, Mr. Friant being the engineer in charge. Mr. Blakeley has about 3000 acres of grain to be harvested, hence there is a big run ahead of the machine. Frank informs us that he has 1000 acres of barley which he believes will yield fifteen to twenty sacks to the acre, while the yield of wheat will probably average from eight to sixteen sacks to the acre. The waters flowing into the lake have been successfully handled this season, and all danger to the grain crops from overflow is believed to have passed.

### KERN.

**CUTS WIDE SWATH.**—Echo: Hubbard Bros. are harvesting wheat for C. A. Weaver & Co. on their land adjoining Delano. They are using a combined harvester which cuts 24 feet, and they run a header alongside which cuts 24 feet at a swath. The wheat is yielding about two sacks.

### LOS ANGELES.

**THE COMING ORANGE CROP.**—A Los Angeles dispatch says: The outlook is for a heavy crop of oranges next season. The fruit has set well so far and there has been comparatively little dropping. The general opinion of the fruit trade seems to be that the crop will probably approximate 30,000 carloads this coming season. With favorable conditions, the new acreage, it is figured, will make the yield of the coming season by far the largest on record and enough to tax the capacity of the railroads to the utmost.

**RUNNING ON APRICOTS.**—Pomona Progress: On Friday the Pomona cannery began active operations on the first of the apricot crop. There have been about 100 persons at work for a few days, but during the busy season there will be fully 500 people employed, 400 of whom will be women and girls. Some of the more important machines used in the cannery are a capping and slicing machine and a peach pitting machine, the latter an invention of the foreman of the cannery and one of the greatest labor-saving machines in use in this line of work. The work on apricots will last until the middle of July, when peaches begin to come in. There is about half the crop of apricots this year that there was last, but the prices are correspondingly higher, the ruling figure now being paid ranging from \$20 to \$25 per ton, against \$10 per ton last year. Mr. Waters expects to put out fully 2,000,000 cans of fruit during the coming season.

### PLACER.

**NORTH WIND HEAVIER IN THE VALLEY THAN THE FOOTHILLS.**—Herald: The north wind of Thursday and Friday did considerable damage to the fruit crop, causing apples, plums and pears to fall quite freely. The latter crop, however, was very full, and in many orchards the wind simply did what the orchardist would have had to do—thin them. We have heard of but little damage to peaches. The windstorm was much more disastrous in the valleys than in the foothills, blowing the limbs off the trees, hop poles down and shelling grain.

### RIVERSIDE.

**GRAIN RANCHERS GET BIG MONEY FOR CROP.**—Press: San Jacinto will have an unusually large grain crop this year. Several large deals in grain have already been made. F. Pico sold to a Los Angeles milling company 20,000 sacks of wheat at 60 cents per bushel for about \$35,000. Kerr & Kerr are closing a deal which amounts to about \$50,000, and William Newport is an even larger dealer. The output of wheat alone will amount to over 1000 carloads and the returns will be over \$300,000. To take care of this grain it has been necessary to buy more harvest machinery. The prosperous condition of the grain farmers this year places San Jacinto valley among the first of the grain-growing sections of California.

### SACRAMENTO.

**HOG CHOLERA.**—Union: Dr. C. H. Blemer, State Veterinarian, has been on the Cosumnes river, investigating the outbreak of hog cholera, which has caused such great losses during the past few weeks. The doctor reports that conditions are not so bad as has been alleged, for the disease is confined to three ranches which adjoin each other, with very little, if any, likelihood of its being spread beyond them. The disease started on the ranch of Mrs. S. W. Belcher, and left her only some 20 hogs out of a drove of some-

thing over 150. A. D. Murphy, whose place adjoins that of Mrs. Belcher, lost over 180 of his drove of 250, and some of those left were developing the disease. The third infected ranch belongs to H. Middleberry, who had lost 30 out of his drove of 90 hogs.

**HEAVY DAMAGE TO RIVER ORCHARDS.**—Bee: A correspondent writing from Isleton says: "Such a windstorm as has been raging down the river has not been known in many years. Neither the Isleton nor the Rio Vista ferries were able to run during the storm. Orchardists along the river told me they had lost at least one-third of their pears. An immense quantity of green fruit has been blown to the ground to rot. This is the severest windstorm that has visited the down-river district in years."

### SOLANO.

**LARGE PURCHASE OF SHEEP.**—Republican: Lewis Pierce, T. H. Wood and J. H. Hoyt have purchased a band of about 5000 sheep from the Hastings estate. Pasturage on the Hastings ranch in the Potrero lands has been rented for the stock.

### SONOMA.

**CO-OPERATIVE CANNERY.**—Herald: The Healdsburg Enterprise: The Healdsburg Fruit Packing Association is now in full effect, an organization having been effected at a meeting last Saturday, when the following directors were elected: A. E. Burnham, W. V. Griffith, Ira Proctor, Dr. C. W. Weaver, W. N. Gladden, J. B. Prince and E. B. Ware. E. B. Snook, A. E. Burnham and E. B. Ware were appointed a committee on by-laws to confer with J. T. Coffman. The meeting was well attended and reports were heard on the fruit outlook, and it was the opinion that the crop would turn out fair. Early Crawford, however, were not up to previous years.

### SAN JOAQUIN.

**APRICOTS AND PEACHES.**—Lodi Sentinel: Mason Bros. are running a large force of cutters, some seventy odd, at their place east of Lodi. At present the average day's cutting amounts to fifteen tons. The weather is almost perfect for drying, but the fruit is not ripening very fast. Peaches and apricots for the cutting tables command from \$12.50 to \$16 per ton, and the canning varieties are worth from \$20 to \$25 per ton. The cutters get 10c a box for cutting fruit, and a fast worker can average about eleven boxes per day.

**ENGINE TO IRRIGATE ALFALFA.**—Clements Brothers, of Clements, have set up a 75 H. P. gasoline engine to irrigate alfalfa. The water is raised by a centrifugal pump from the Mokelumne river. The plant will cost over \$3000.

### SANTA CLARA.

**APRICOT CROP SMALL.**—San Jose Herald: The apricot crop in this valley will be even smaller than was expected, for the reason that the fruit is prematurely falling. Reports from all sections of the valley are to the effect that this dropping is the most serious in the history of the local industry. Peaches also are dropping, but not so generally or seriously. The cause has not yet been definitely determined.

**CANNERIES BUSY.**—Los Gatos News: The Los Gatos canneries are still actively engaged on cherries and the mountain Royal Annes will continue to arrive all next week. The first apricots of the season were received on Tuesday from the Wright estate. Other deliveries are expected right along, and there will be no lull between seasons. Over 300 hands are at present employed, working day and evening, and the force will be increased about the middle of July when peaches are expected to appear.

**PRUNES SELLING.**—There is considerable activity in the export prune demand for futures, and considerable business is being done on a 3c basis f. o. b. Some offers are being made for dried apricots, but the ideas of the buyers are entirely too low to suit present conditions.

### SANTA CRUZ.

**GOOD RESULTS FROM SUMMER SPRAYING.**—Watsonville Pajaronian: In going over nearly 1000 apple trees on his place, which have been given the third summer

spraying, Frank Mauk reports that he found but three wormy apples, in two of these instances worms being dead in the fruit. On unsprayed trees in the immediate vicinity, which had been left for comparison, he found quite a number of worms, giving strong evidence that thus far at least summer spraying has brought about good results. Mr. Mauk feels quite confident that such a condition will prevail until the picking season.

**APPLE DROP NOT VERY SERIOUS.**—The sudden droppage of Bellefleur apples from young trees in Pajaro valley within the past week is a puzzle to fruit growers and many theories have been advanced as to the real cause. The majority of them, however, are agreed that the absence of late spring rains and the protracted dry spell is responsible for such a condition. Young trees that gave promise two weeks ago of bearing a box of apples each will do well now if five trees furnish a box. The older Bellefleur trees have shown some droppage, but not sufficient to do any particular harm. The crop was too heavy and the trees will do better with less fruit on them.

### TEHAMA.

**WHITE BLACKBERRIES.**—Red Bluff News: Neely Crowell, of Bend, brought to town Tuesday a sample of the white blackberry taken from vines he set out two years ago. The berries are pretty to look at, but that is about all that can be said in their favor. In size, shape and formation they closely resemble the blackberry, but the color is a cream white. They have an unpleasant taste and the seeds are about as numerous and as "woody" as in the wild blackberry. They yield heavily, the two vines Mr. Crowell has being literally covered with fruit. The berries from these vines are not a success as a food in the fresh state nor is the flavor improved by cooking, as the peculiar and disagreeable taste remains with them.

**SOME TALL WHEAT.**—Red Bluff News: A bunch of well-headed wheat was exhibited here the other day by Mrs. J. A. McClure, that measures in height from 6½ to 7 feet. The wheat was grown by J. A. McClure on his ranch on Red Bank creek, who has about thirty-five acres of wheat of about this height.

**NEW WHEAT COMING IN.**—Red Bluff People's Cause: The first new wheat of the season was delivered in Red Bluff June 24 by W. A. Hesse, from the Johnson ranch. Wheat has been coming in steadily since that time. Mr. Hesse's wheat proved to be exceptionally good, averaging about 141 pounds to the sack. It is Golden Club wheat.

### YOLO.

**HAY CROP NEVER BETTER.**—Mail: Al Bourn, one of the heaviest shippers of hay in Yolo county, reports the hay crop is fine and prices good. Better still is the unusual demand for Yolo county hay, which exceeds that of any other season for years past. Up to July 1 Mr. Bourn has shipped about 1200 tons of hay to different places in the State, in Nevada and Oregon. Had he been able to get the necessary cars he would have increased that amount to at least 1500 tons. Before the season is over he expects to handle 8000 tons of hay, whereas last season the total tonnage handled was only 4000.

**DAMAGE TO FRUIT AND GRAIN.**—The fierce north wind of last week did a great deal of damage to fruit and grain crops, estimated by different farmers and orchardists at from 35% to 75%.

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN, Modesto, California.



## THE HOME CIRCLE.

### The Barefoot Boy.

The barefoot boy is coming, and right now he has the blues,  
Because his cautious mother will not let him shed his shoes.  
He's anxious for the freedom of the barefoot boy at dawn,  
Who does not have to bother with the footwear girls put on.  
He wants to wade in water every morning when he goes  
To school with other youngsters, and get mud between his toes.

The barefoot boy is coming, and, ere long, he will be here,  
With feet as tough and dirty as they could be made, I fear.  
He'll have stone bruises on them, and will oft be walking lame,  
And yet you may be certain he'll be happy just the same.  
He'll stub a toe quite often, yet a little thing like that  
Won't faze him for a minute! He'll be Johnny at the bat!

The barefoot boy is coming, and if you were once a boy  
You know that when we see him we will find him full of joy;  
He will not mind the bruises! Has not every youngster paid—  
In injured feet—full value for the chance he got to wade?  
He will not mind mosquitoes, nor for briar scratches care;  
And he will sneer at stockings—when his sunburned feet are bare!

— J. C. Stewart.

### Why?

One, harboring ambition, goes  
To tasks the lazy man would shun,  
And if he governs men or hoes,  
The days are all too short; he knows  
No peace until his work is done,  
Until the goal he seeks is won.

Another, caring not to gain  
The glories waiting on the height,  
Sits moaning o'er each little pain;  
He rests through every little rain,  
And, starting when the morning's bright,  
Begins to wish that it were night.

One sadly sees the setting sun  
And views his day's work with a sigh;  
Another drops his tools to run,  
Nor cares how little he has done,  
And people still go asking why  
Some men are down and some are high.

— S. E. Kiser.

### The Drummer on the Farm.

"I find that I am not going to spend my vacation this year at Farmer Haywood's, up in Pennsylvania, as I did last year," said John Gilbert, the traveling groceryman, "and I'm sorry."

"I had a real lively, nice time at the Haywood farm last season. I hadn't been there over two hours when a couple of jealous pigs got into a fight in the dooryard. The farmer's twelve-year-old son and the nine-year-old son of the neighbor were playing mumble-peg in the yard at the time the strife began. They sat on the ground near the well curb.

"The battle of the pigs scared the neighbor's boy so that he jumped up, climbed on the curb, presumably to get to a place of safety, and promptly tumbled over into the well, which was 15 feet deep, with about 4 feet of water in the bottom.

"Farmer Haywood's boy set up a yell and, for fear that no one heard him, let the bucket down into the well, went down the rope like a monkey, grabbed the neighbor's boy by the hair and held his head above water, yelling like a Comanche Indian all the while. Farmer Haywood's hired man heard him and rescued both the kids while the family danced about the well and hollered and wrung its hands.

"The hired man had been working in the garden when the yells of the boy summoned him. He left the garden gate open in his haste.

"The battling pigs ceased battling and promptly hurried into the garden through the open gate, and by the time the hired man had safely landed

the two kids from the depths of the well the pigs had got away with nearly the whole of Farmer Haywood's crop of early peas, and stamped recognition entirely out of his entire setting of tomato plants. When Farmer Haywood came in and heard what had been going on he was much surprised.

"Why," said he, "there hain't nobody ever fell into that well before, nor even thought o' doin' it! And this is the first time pigs ever spiled my peas and tomato crops."

"A day or so after Farmer Haywood was out plowing corn, with one horse to the plow. The twelve-year-old son who had gone down the well after the neighbor's boy was driving the horse. I was following behind them, gathering worms to go bobbing for catfish with.

"By and by the horse stepped into a yellow jacket's nest. Some of the hot-ended occupants of the nest came out and rested on the horse. Instantly he began to kick and squeal, and then away he went across the field as fast as he could tear, taking the plow and boy with him. Farmer Haywood stood open-mouthed and speechless a moment and then exclaimed:

"It beats tarnation! I've plowed this field for goin' on forty years, and I never knowed it had a yaller jacket's nest in it before."

"Then the farmer and I started in the wake of the horse and the boy. The latter had held on to the lines until he was dragged half way across the cornfield, mowing down rows of corn like a cyclone when he let go.

"The horse cleared two fences in his later course, parting from the plow at the first one, dashing into an inclosure near the house, where some cows were standing. In that inclosure was another well, the curb of which was not as secure on its base as it might have been.

"The sudden appearance of the runaway horse among them scared the cows. One cow ran against the well curb and knocked it down. This permitted a frightened yearling heifer to back into the top of the exposed well. Her hind quarters went down, leaving her hanging by her forelegs to the top of the well.

"Farmer Haywood's fifteen-year-old daughter was just putting the churn dog to work on the machine at the back of the house, when the horse, still ridden by a penetrating yellow jacket or two, dashed in among the cows, and saw the disaster his sudden appearance had caused. She ran to the cowyard, and, grabbing by the horns the heifer that hung in the well, tugged away at them with the laudible intention of lifting her out of her perilous situation.

"The heifer, having her doubts about the ability of a fifteen-year-old girl to hoist unaided 300 to 400 pounds of beef out of a well, started in to help her by kicking and pushing with her hind feet against the well wall. This caused the heifer to lose the hold her forelegs had on the top of the well, and down she went all in a heap to the bottom. The horse, still under the promptings of the yellow jackets, had gone right on, taking the enclosure fence, and speeding through the adjacent lot without having stopped a moment to contemplate the damage he had done.

"When Farmer Haywood and I came panting to the scene the heifer had just made her descent into the well. With the help of the hired man and the farmer's oldest son, Jim, the heifer was, with ropes and tackle, at last hoisted from the well, a little disfigured, but still chewing her cud. The farmer's daughter went back to her churning. The churn dog, probably in attempting to get out and see what the excitement in the cowyard was about, had leaped over the side of the machine and hanged himself by the rope that held him.

"Why!" said Farmer Haywood, "I've had more than twenty churn dogs on the farm and I never had one to do such a thing as that before."

"Farmer Haywood also had a blooded bull. A trout stream ran through the pasture where the bull was boss. A man, supposed to be from Scranton, sought that trout brook early one morning. I could see from

the hill not far away, where I was making a feast from the blackberry bushes.

"By and by he heard a rumbling noise behind him. He looked that way and saw Farmer Haywood's bull coming for him, head down and tail up, and not 50 feet away. The fisherman dashed across the brook, and, as the bull kept right on, concluded not to try speed with the animal, but shinned up a small chestnut tree at the brook-side.

"The bull pawed dirt and roared, and showed no disposition to go away. Owing to the notices on the trees along the brook the Scranton man, I suppose, did not care to holler for help, but after being kept on his perch for two hours by the bull, whose patience was only equalled by his fierceness of disposition, the fisherman evidently concluded that he would prefer being caught by the farmer to being treed indefinitely by the bull, for he began to yell for some one to come and rescue him. I had remained among the berry bushes, but did not feel equal to the task of rescuing the man from the bull.

"After a quarter of an hour or so, though, his yelling was heard by Farmer Haywood's son Jim, who was on his way to a back lot, and Jim went to the aid of the treed fisherman. The attention of the bull was no sooner drawn from the fisherman by the approach of the farmer's son than the fisherman dropped down out of the tree and made tracks for peaceful territory without waiting to be identified by the farmer's son or to give thanks to him for his rescue.

"The farmer's son, with the intention of overhauling the trespasser and marking him for future reference as an exhibit in a lawsuit, started on a run after him. The bull, undoubtedly mad at Jim for spoiling his fun, pursued the farmer's son.

"The trespassing fisherman got to the fence and over it only by a jump or two ahead of Jim, and tore down the road. Jim would have overtaken him all right, but just as he was in the act of swinging himself over the fence the bull came up, projected himself against Jim just below where his hind suspender buttons were and sent him clear to the other side of the road, like some missile shot from a catapult. Jim landed in the brush, and by the time I got there and helped him to get himself together and find the road, the Scranton man was out of sight. The bull was grazing in the lot as if nothing had happened.

"When Jim came limping back to the house with me we found his twelve-year-old brother just mounting his horse to ride away and the household in great excitement.

"Where are you goin' to, Billy?" said Jim to his brother.

"After the doctor," said Billy. "The hired man has just had two fingers took off by the mowing machine."

"It's tarnation sing'lar!" said Farmer Haywood. "I never had a mowing machine act up like that before. And another thing, there's a fox prowlin' around here o' nights, and there hain't been one around in twenty years before. First thing we know there'll be some chickens missin'."

"Jim said he would set a trap for the fox and he did. The next morning when he went out the trap he found in it a blooded Cotswold lamb that Farmer Haywood wouldn't have taken \$150 for. The fox had been around, though, for the best Plymouth Rock rooster the farmer had was gone.

"So Farmer Haywood said he would lie for that fox with the old gun that night, but along in the afternoon I asked the farmer if I couldn't take the gun and shoot a ground hog that was making away with the clover crop.

"You kin take the gun," said he, "and you kin go over to the back meadow, but I dunno whether you kin shoot the ground hog or not."

"I took the gun and went. I got a good easy shot and blazed away. The gun burst into a dozen pieces. One piece thumped a calf that was standing near and made veal of it instantly.

"Why, tarnation take it all!" said Farmer Haywood, when he heard about it. "I carried that gun from Bull Run

to the end of the war, and I've shot bushels of squirrels with it sense and it never busted before!"

"My time was up a day or two after that, and I had to leave Farmer Haywood's, and I was sorry. There wasn't any great demonstration by the folks at the farm over my going, but I didn't think anything of that, of course, and, having made up my mind to quarter myself at the farm next summer, and being up in that vicinity last week, I thought I would drive down and make arrangements with the farmer for my prospective stay.

"I was within a mile or so of the farm when I came to a big black hog lying in the sun at the edge of the road. He grunted lazily as my horse passed along by him, and his indolent content was so aggravating that I hit him a cut with my whip.

"The hog jumped up, and, with a series of loud snorts, went galloping down the road ahead of me. His appearance was formidable, and it was not strange that a horse, drawing a spring wagon with a man humped up on the seat and coming from the other direction, became frightened at the noisy beast. The horse reared up and turned square around in the ditch, and then ran away down the road at the top of its speed.

"I reined up, jumped out of my wagon and ran forward to see how the driver of the runaway horse had fared. He rose from the wreck of the wagon, feeling of his head, and with a yellow streak of something running down his clothes. As I drew near him I recognized Farmer Haywood and immediately began to recollect.

"Why, Farmer," said I, "has this sort of thing been going on ever since?"

"The farmer recognized me, and to my surprise began to swear, and by and by he roared out:

"No, it hain't been going on ever since! Everything has been as peaceful as lambs ever since the day you went away last year, and now you only show yourself in the neighborhood and a boss o' mine that never shied at anything on earth before gets scared at a tarnation old black hog, spills me out in the ditch, breaks my wagon, smashes more than twenty dozen o' eggs I was taking to town to get some store goods with, and more than likely will skew Mandy and the folks to death when he tears up to the farm and stops—if he ever does stop, which is tarnation doubtful, the way he is goin'. What you got ag'in our folks, anyhow?"

"Then I saw heaps of broken eggs on the ground. Farmer Haywood had been badly mixed up with them in the tumble in the ditch. And before I could find words to express my surprise at the farmer's greeting and sympathize with him, he resumed:

"If you're thinkin' o' stayin' around here," he exclaimed, "jest let me know now, and I'll sell the farm and move West, 'cause there won't be a critter left on it, and life won't be safe for our folks if you're anywhere nigh."

"And without waiting to hear any word of reply from me, Farmer Haywood started on a run down the road on the trail of his horse, shedding yolks of eggs and bits of egg shells at every jump. I turned my horse around and drove back to the railroad station.

"So I am not going to spend my vacation at the Haywood farm up in Pennsylvania this year, and I'm sorry."

—New York Sun.

### Mark Twain in a Fog.

Mark Twain's former lecture manager told this story of an entertainment given by the humorist in London during a heavy fog: "One night the queen's concert rooms were like a smokehouse, and I saw from my chair in the royal box a shadowy dress coat, supported by a pair of shadowy trousers, girdled by the faint halo of the ineffectual footlights. A voice was in the air, but it was difficult to locate it with any degree of certainty. The apparent headless trunk of the lecturer told what he knew of our fellow savages, the Sandwich Islanders, and at intervals out of the depths ascended



the muffled murmur of an audience invisible to the naked eye. Mark began his lecture on this occasion with a delicate allusion to the weather and said, 'Perhaps you can't see me, but I am here.'

#### To Get a Good Portait.

Don't wait until the afternoon if you are going to get the best results from a photograph. Go early in the day.

Don't expect to get a photograph that will please you, if you are fatigued when sitting.

Don't hurry. Haste makes the face red, and red comes out dark in a picture, a result not desirable where complexion is concerned.

Don't get out of temper, a condition which brings lines to the face and spoils the expression.

Don't choose a day when the sunshine is too bright, or every imperfection will be more strongly developed. A well lighted, cloudy day is best.

Don't wear dead white. Cream white is prettier and more effective; indeed, the best color for a dress.

Don't wear black. It gives a hard, dense tone.

Don't wear tan or yellow, or lavender. They take badly. Gray takes white, and sky blue generally comes out white.

Don't wear silk or satin. Nothing comes out so badly as the glimmer of silk or gloss of satin. Woolens, crepes or velvets are preferable.

Don't be afraid of wearing lace. The line between flesh and dress should be softened by it.

Don't wear diamonds or rubies. Jewels are best left at home, though pearls may be worn.

Don't wear screw earrings. They will look like lumps, or protuberances.

Don't indulge in any elaborate hair dressing. One can hardly dress the hair too loosely for a picture.

Don't arrange the hair in a flat style if your face is round and like the full moon in all glory. The fluffy or pompadour effect is better.

Don't take a full-face picture if the nose is crooked or the eyes weak. Try a three-quarter view.

Don't hide the eyes, if they are fine. Take a full-face view.

Don't try a profile if the chin is retreating, the nose a pug, and the lips too full. A sidewise turn of the head may transform these defects almost into charms.

Don't be afraid of using a bit of powder to cover an obnoxious mole.

Don't cover up graceful curves of neck and shoulders with drapery.

Don't smile unless it comes natural, or the result will be heartrending.

Don't flop into the chair with the arm in any position and call that natural posing. Pose must mean something. Sitting erect with the head slightly drooping, gives an expression of contemplation. If the eyes are raised, an expression of interest is the result.

#### The Face and the Collar.

Men who do not want to look any fatter in the face than they can help have an easy means of accomplishing their purpose. Not all of them are aware of the effect that may be created by the form of a collar or cravat.

"The stout man who wants to look as thin as he can," said the haberdasher's clerk, "ought to wear a tie of the kind known as a four-in-hand. Preferably it should be dark in color and drawn tight. That carries down the line of the face and lengthens it to a degree that tends to make the face look thinner."

"Another aid to making a man look thin is in the height of his collars. Stout men who want to look thin should wear high collars and closed ones. Any collar that opens in front makes one look stouter under nearly every circumstance. Such collars are becoming to the thin men."

"The fat man should avoid the kind of tie that has a horizontal effect. This will add pounds to his appearance—in his face at least."

"On the contrary, this cross effect

will make the thin man look stout. The broad plastron scarfs, as they are called, have little effect on a man's looks one way or the other. When he wears them it is the collar that makes the difference.

"He should therefore see that he wears a high one that does not open, if he wants to look as thin as possible, whereas if he wants to seem stouter, an open collar will produce that effect for him."

#### Domestic Hints.

**FILET OF BEEF, A LA RELIANCE.**—Broiled or saute, garnished with small, fresh mushrooms and artichokes, bottom garnished with a nice slice of pate de foie grass on top of the filet. Pour a Madeira sauce with chopped truffles in it over the filet and garnishing. Serve very hot.

**LYONNAISE POTATOES (BLAZER).**—One tablespoonful of butter, one onion chopped fine, twelve cold boiled potatoes, cut into dice, parsley, salt, pepper. To the butter and onion add the potatoes, and stir quickly over the open flame for five minutes, taking care they do not stick to the pan; season with salt and pepper, add chopped parsley, drain and serve.

**CREAM RICE PUDDING.**—Boil gently till quite soft three ounces of rice in one quart of milk. When sufficiently cooked remove from the fire and add a quarter of a pound of fine sugar and a pint of cold milk. Flavor with vanilla and a little nutmeg. Pour the pudding in a large pudding dish or in several small ones and stand them in a moderate oven and let cook till a light brown over the top. Serve cold.

**SALMON AND CUCUMBER SALAD.**—While the boiled salmon is still hot, flake it into bits and sprinkle over it lemon juice, onion juice, pepper and salt. Set on ice to get thoroughly chilled. At about serving time, put the salmon with thin slices of cucumbers cut in halves on lettuce leaves. Cover with tartar sauce and send to table. If liked, chopped green peppers may be added as a garnish.

**CHICKEN MOUSSE.**—Remove all the meat from a cold cooked chicken and cook the carcass in a very little water, putting in an onion and some parsley to flavor it. Chop the meat, when freed from skin, and then pound it to a paste, adding about a quarter of its quantity of cold cooked ham. Season with salt, white pepper and a very little mace, and moisten with the stock in which the carcass was boiled. Add then a gill of cream very stiffly whipped. Put a layer of the mixture into a charlotte mould, then a layer of cubes of foie gras, truffles chopped, and cooked fresh mushrooms, then a layer of the chicken mixture, and so on till the mould is full. Set the mould on ice for two or three hours and unmould when serving. Garnish with parsley and slices of lemon.

**PINEAPPLE ICE-CREAM.**—A delicious pineapple ice-cream is made as follows: Peel a ripe, luscious pineapple, chop fine, and pound to a pulp with a heaping cupful of sugar. Cook it in its juice over the fire for five minutes and let it cool while you make a custard of the yolks of five eggs, a pint of milk and a cup of sugar. Let this boil over the fire, stirring all the time, then add the cooked pineapple, strained into the mixture through a puree sieve, and last of all, a pint of rich cream. If the pineapple is ripe and sweet it will not need any more sugar, but if it is acid it may need another cup. Govern yourself by the taste, remembering that, as cooks say, a great deal of the sweetness will freeze out. It should, therefore, be much sweeter than an ordinary custard. Serve it with white sponge cake, or what is familiarly known as "angel's food." This is also an excellent cake to serve with strawberry ice-cream made with fresh, ripe strawberries.

Mrs. Tiff—"You may sneer at us women as much as you please—call us hypocrites, if you will—but at any rate we never use religion as a cloak." Mr. Tiff—"Of course not. Religion isn't fashionable enough."

#### Hints to Housekeepers.

If bureau drawers stick try rubbing the edges with kitchen soap.

There never were so many fans before. One novelty made of artificial flowers mounted on wooden sticks looks when folded like a bunch of fresh blossoms.

A new bread box is of tin lined with porcelain. Bread cannot mould in this it is claimed. Bread need not mould in any kind of a bread bin. It should not be put in hot, and the cloth in which it is wrapped should be perfectly fresh and dry.

New beets make a delicious salad. Boil the beets and when cold cut into dice. Serve with a tartar sauce, which is simply mayonnaise into which has been stirred a teaspoonful of minced onion, a little minced parsley, an olive and a cucumber pickle, both finely chopped. A little tarragon is an addition, or use vinegar in the dressing.

Many mock jewel ornaments are used on the smartest gowns, in buckles, buttons and even tassels and fringes, and Indian beadwork is so "modish" in chains, girdles, fringes, medallions and embroidery, that the beads in all sizes and colors are for sale in "bunches" or by the ounce, and are fashioned into ornaments by the wearers themselves.

Here are two good ways for serving eggs. For creamed eggs, boil four or five eggs hard, cut them lengthwise and pour over them a white sauce made of one pint of milk, one tablespoonful of flour and one tablespoonful of butter. For baked creamed eggs, poach six eggs, put them on a deep platter, grate over them a little cheese and cover with a white sauce made of one pint of milk, two tablespoonfuls of butter and two of flour. Bake for five minutes in a quick oven.

If a knife used to cut onions retains the odor of the vegetable take it into the back yard and run it into the earth several times. Most housekeepers keep a separate stewpan for cooking onions, in case more or less of their pungency is apt to linger about a dish in which they have been boiled, unless, as is too seldom the case with the dishwasher, especial care is taken in their cleansing. A supply of salsoda near at hand will stimulate the maid's ambition to keep her utensils clean, since it readily softens extraneous matter, saving time and effort, besides serving as a deodorizer. Custards or any other dish with milk as a foundation readily absorb the flavor left by the cooking of pungent vegetables. A double boiler and a baking dish should be set aside for such purposes and employed in no other way. It is attention to these small details that is to a large degree accountable for the reputation of good cooking.

#### Humorous.

"What is the first thing to do in learning to run an automobile?" "Say your prayers."

Patron—"Give me some ground hog." Waiter—"What d'ye mean?"

Patron—"Sausage."

"I am surprised that Gadboy didn't pay you. I thought the fellow had good points." "So have pins—yet they'll stick you!"

"De trusts," said Uncle Eph'm, "is jes' like musharoons. Hit takes a expert to tell which is de wholesome an' which is de pizen."

McJigger—"Smithers looks bad. What's the matter with him." Thingumbob—"Run down." McJigger—"Overwork?" Thingumbob—"No, under auto."

"Have I got the 'pleasing expression' that you want?" asked Mr. Billus. "Yes, sir," replied the photographer, "I think that will do very well." "Then hurry up, please. It hurts my face."

"See here!" exclaimed the city editor. "You speak of the bride as being 'led to the altar.'" "Yes, sir; well?" replied the new reporter. "Well, that's nonsense. There never was a bride who couldn't find her way there regardless of obstacles."

#### The Richest Men:

John D. Rockefeller is now classed as a billionaire, and reported to be the richest man in the world. Before the South African war Alfred Beit of Kimberley was, according to an English list published in 1900, the world's only billionaire. Li Hung Chang of China stood second in the list with \$500,000,000, and John D. Rockefeller third with \$250,000,000. Only seven others were given fortunes of over \$100,000,000. Prince Elim Demidoff of Russia, \$200,000,000; Cornelius Vanderbilt of New York, \$125,000,000; Andrew Carnegie, \$120,000,000; and William K. Vanderbilt, John Jacob Astor, William Rockefeller and William Waldorf Astor, each \$100,000,000. Lord Rothschild of England was credited with \$75,000,000 and Alphonse Rothschild of Paris and Baron Albert Rothschild of Vienna \$70,000,000 each. The English dukes of Devonshire, Bedford, Norfolk and Beccleugh each had \$50,000,000. Alfred Krupp, gunmaker, had \$45,000,000, Claus Spreckels and P. D. Armour each had \$40,000,000, Collis P. Huntington, George J. Gould and J. Pierpont Morgan each \$35,000,000, and Marshall Field, Harold McCormick, W. L. Elkins and James J. Hill each \$25,000,000, all of them ranking in wealth with Russian and Austrian princes.

## GLENN RANCH,

Glenn County, :::: California.

## FOR SALE

### In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## LAND!

Near Stanford University and Palo Alto, Santa Clara County, California.

**\$11,500.** Good general farm, 83 acres, 2 1/4 miles out. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

**\$7000.** A beautiful tidy place. House 8 rooms, large barn, etc., young orchard 10 acres, 3 miles from University; must be seen to be appreciated.

**\$7750.** Profitable hill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and heifers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

I have listed many other larger and smaller orchards, also town lots in Mountain View and Palo Alto, also good orchard land ranging from \$10 to \$400 per acre. Write for what you require.

JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

## Napa County Real Estate FOR SALE.

Homeseekers should visit the beautiful and fertile Napa valley before investing elsewhere. Send for our illustrated catalogue, "The Garden Spot of California." Address communications to THE CALISTOGA REAL ESTATE CO., Calistoga, Cal.

**BUY** alfalfa land graded ready to plant; water right deeded with land guaranteed sufficient for irrigation purposes; near town creameries and R. R.; will sell for a limited time at \$15 per acre; half cash, balance on time if desired. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

**DEWEY, STRONG & CO.,**

Patent Agents, S. F., Cal., and Washington, D. C.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, July 8, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday	76 1/4 @ 75 1/4	76 @ 75 1/4
Thursday	75 1/4 @ 74 1/4	75 1/4 @ 74 1/4
Friday	75 @ 74	75 @ 74
Saturday	75 @ 74	75 @ 74
Monday	75 @ 74	75 @ 74
Tuesday	75 1/4 @ 74 1/4	75 1/4 @ 74 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday	51 1/4 @ 50	49 1/4 @ 48 1/4
Thursday	50 1/4 @ 49 1/4	49 1/4 @ 48 1/4
Friday	50 @ 49	49 @ 48
Saturday	50 @ 49	49 @ 48
Monday	50 1/4 @ 49 1/4	49 @ 48
Tuesday	51 1/4 @ 50 1/4	50 1/4 @ 49 1/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 35 @ 1 34 1/2	— @ —
Friday	— @ —	— @ —
Saturday	1 35 1/4 @ 1 36 1/2	— @ —
Monday	1 37 1/4 @ 1 38 1/2	— @ —
Tuesday	1 38 1/4 @ 1 37 1/2	— @ —

\*Adjusted on account of Fourth of July.

### WHEAT.

Another quiet week has been experienced in the wheat trade. Business was wholly suspended on Friday and Saturday last, on account of observance of the national holiday, or more properly speaking, non-observance of the day, so far as the city was concerned, many taking advantage of the opportunity to get in the country, and those who remained made little attempt to celebrate. The small boy and his fire crackers were to be seen and also to be heard, but beyond this there was little to remind any one that the Fourth had put in an appearance. Some of the men in the grain trade, buyers, sellers and brokers, were slow to return to their accustomed haunts, and there was not much done in grain circles, either on or off 'Change, during the early part of the current calendar week. Business in wheat will be likely soon resumed, however, with considerable activity, as the engaged fleet of ships now in port for grain loading is larger than for some months past and is apt to show further marked increase in the near future, the supply of ocean tonnage to draw from, both in harbor and nearly due, being unusually large. Freight rates by deep sea continue at a low range, 18s 9d for the usual European voyage being a quotable extreme per ton for the most desirable iron vessels. Ships now here under charter for grain represent a carrying capacity of nearly 50,000 tons. The wheat market, while showing no particular activity, is strong at current quotations. Round lots of desirable quality are difficult to secure at ruling values.

California Milling, new	1 37 1/4 @ 1 42 1/4
Cal. No. 1 shipping, alongside	1 33 @ —
Oregon Club	1 32 1/4 @ 1 35
Washington Blue Stem	— @ —
Washington Club	— @ —
Off quality wheat	— @ —

### PRICES OF FUTURES.

On Merchants Exchange prices of futures for No. 1 White wheat per cental for the week were as follows for the options named:

December, 1903, delivery, \$1.34 1/2 @ 1.38 1/2.  
May, 1904, delivery, \$— @ —.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.38 1/2 @ 1.37 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	6s 3/4 d @ 6s 4 d	6s 6 1/2 d @ 6s 7 d
Freight rates	25 @ 28 1/4 s	17 1/4 @ 18 1/4 s
Local market	\$1 12 1/4 @ 1 13 1/4	\$1 35 @ 1 37 1/4

### LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on July 1 and June 1:

Tons.	July 1.	June 1.
Wheat	*17,804	25,548
Barley	18,986	10,681
Oats	2,671	4,017
Corn	95	453

\*Including 8798 tons at Port Costa, 7541 tons at Stockton.

†Including 4129 tons at Port Costa, 3460 tons at Stockton.

Stocks of wheat in near-by warehouses on 1st inst. show a decrease of 7744 tons for the month of June. A year ago there were 37,861 tons wheat in near-by warehouses.

### WHEAT CLEARANCES.

Wheat clearances for season of 1902-03:

	Centals.	Value.
June, 1 cargo	5,529	\$ 7,888
May, 2 cargoes	142,773	186,345
April, 3 cargoes	189,218	286,947
March, 10 cargoes	610,154	940,135
February, 6 cargoes	426,531	629,133
January, 14 cargoes	849,868	1,216,798
December, 11 cargoes	612,888	729,312
November, 15 cargoes	636,836	850,048
October, 12 cargoes	454,703	553,765
September, 21 cargoes	684,889	791,948
August, 12 cargoes	405,491	468,795
July, 6 cargoes	348,736	405,785

Total for season... 5,267,616 \$7,066,899

During the past ten years wheat exports were:

Season.	Centals.	Value.
1902-03	5,267,616	\$ 7,066,899
1901-02	9,624,805	10,279,951
1900-01	8,000,872	8,276,078
1899-1900	6,500,875	6,666,874
1898-99	2,286,760	2,758,994
1897-98	10,112,641	15,261,951
1896-97	10,101,592	13,042,688
1895-96	10,293,957	10,629,629
1894-95	9,605,296	8,607,135
1893-94	8,966,268	9,449,612

### FLOUR.

There is no heavy movement to note for the time being, either outward or on local account, but stocks are of quite moderate proportions and are being in the main quite steadily held. Much of the flour now in store and warehouse here is the product of mills outside the State.

Superfine, lower grades	\$2 40 @ 2 65
Superfine, good to choice	2 75 @ 3 00
Country grades, extras	3 75 @ 4 00
Choice and extra choice	4 00 @ 4 25
Fancy brands, jobbing	4 25 @ 4 50
Oregon, Bakers' extra	3 25 @ 3 75
Washington, Bakers' extra	3 25 @ 3 90

### BARLEY.

New crop is not arriving as freely as many expected, nor does the market incline to any very pronounced degree in favor of the buying interest, especially on desirable qualities. Round lots of bright, clean, heavy and unbroken barley are not apt to lack for custom for some months to come, or fail to bring comparatively good figures. Some purchases are being reported in the interior at relatively higher prices than are quotable here. There is considerable barley of a shoe peg character which has to depend on local mills for custom, and for this sort the market does not show any noteworthy firmness. Speculative trading in futures was of a light character, fluctuations keeping within narrow bounds.

Feed, No. 1 to choice new	\$1 02 1/2 @ 1 05
Feed, fair to good	1 00 @ 1 02 1/2
Brewing, No. 1 to choice new	1 07 1/2 @ 1 12 1/2
Chevalier, No. 1 to choice	— @ —
Chevalier, common to fair	— @ —

### OATS.

No heavy quantities of new have yet come forward, and stocks of old are much lighter than at corresponding date last year. While buyers are not disposed to operate freely at full current values, it is the exception where they are able to obtain material concessions in their favor, especially in the purchasing of good to choice qualities. Of the oats now offering a rather large proportion is of quite common quality.

White Oats, fancy feed	1 27 1/2 @ 1 30
White, good to choice	1 25 @ 1 27 1/2
White, poor to fair	1 17 1/2 @ 1 22 1/2
Gray, common to choice	1 15 @ 1 20
Milling	1 20 @ 1 22 1/2
Surprise, good to choice	1 25 @ 1 32 1/2
Black Russian	1 10 @ 1 17 1/2
New Red	1 10 @ 1 20

### CORN.

Seldom have stocks of this cereal been lighter in this market than at present. Less than 100 tons were reported in all city warehouses on the 1st inst. The market has a strong tone, but business is necessarily largely of a retail character, owing to the exceedingly limited supplies.

Large White, good to choice	1 30 @ 1 35
Large Yellow	1 27 1/2 @ 1 32 1/2
Small Yellow	1 50 @ 1 54
Eastern, in bulk	— @ —

### RYE.

The principal rye producing section of the State reports the yield this season decidedly under average. The market is rather firm but quiet.

Good to choice, new... 1 05 @ 1 10

### BUCKWHEAT.

Not much offering, nor is the demand very brisk, but desirable lots could be readily placed to fair advantage.

Good to choice... 1 65 @ 1 80

### BEANS.

Business is not active, but sales effected since preceding review have been at much the same figures as last quoted. Holders as a rule are not disposed to grant material concessions to effect transfers, not feeling the necessity of so doing, believing that with a fair average demand during

the next sixty days present stocks will be tolerably well cleaned up, leaving little to be carried into the new season. Supplies here are mainly large Whites, with moderate quantities of Bayos and Pinks. There are considerable quantities of Limas and Black-eyes offering from producing points, quotable values for these remaining as last noted.

Pea, fair to good, 100 lbs.	3 40 @ 3 50
Small White, good to choice	3 15 @ 3 25
Large White	3 00 @ 3 10
Pinks	2 90 @ 3 00
Bayos, good to choice	3 65 @ 3 75
Reds	2 90 @ 3 00
Red Kidney	— @ —
Limas, good to choice	3 50 @ 3 65
Black-eye Beans	2 90 @ 3 00
Garbanzos, large	2 00 @ 2 25
Garbanzos, small	1 25 @ 1 50

### DRIED PEAS.

Little doing in this department. Stocks in store and warehouse here are light and are mainly Green or Blue. Some Yorkshire Hero of new crop have been offering, but no transfers have been reported and values for same have not yet been established for new stock.

Green Peas, California	1 60 @ 1 75
Niles Peas	2 25 @ —

### HOPS.

Trade is of light volume in this center. To sell freely, concessions from extreme current quotations would have to be granted, while to buy in wholesale quantity it would probably be necessary to pay an advance on quotable values below noted. There is 4 to 5 cents difference in the views of values entertained by wholesale operators and the asking figures of the most sanguine holders. Private Eastern advices quote the following condition on the Atlantic side:

"The cold stormy weather which prevailed all over the country during the past week was much against the consumption of malt liquors, and brewers had just cause for complaint of the dull trade. They were not disposed to buy any more hops, and with dealers generally holding off awaiting developments, comparatively little business was accomplished on the local market. As a rule holders refrained from pressing stock to sale and the range of values is about as previously quoted. The bulk of the remaining stock is worth about 20@22c to sell on the market, but choice quality to brewers commands 23@23 1/2c when wanted. Yearlings and old olds have attracted some attention, but at easy prices. We are advised of a little trading in the interior of New York State at about 20c for the best lots left. The hop yards are not doing as well as they would if the weather was warmer. Cables from England are better; heavy washing has largely decreased the number of lice."

California, good to choice, 1902 crop... 17 1/2 @ 20

### WOOL.

The local market is exceedingly quiet, with offerings from first hand very light, and they include little wool which can be termed high grade. Dealers are not giving much attention at present to ordinary qualities, and to effect ready sales of such stock, concessions from figures realized early in the year would have to be granted. To secure choice wools in noteworthy quantity, fully as firm prices would have to be paid as have been current at any time this season. An outward steamer the past week took 126,745 pounds of wool for New York.

### SPRING.

Humboldt and Mendocino	18 @ 20
Northern, free	16 1/2 @ 17 1/2
Northern, defective	14 @ 16
Middle County, free	15 @ 17
Middle County, defective	12 @ 14
Foothill	12 @ 14
San Joaquin and Southern, free	12 @ 13
San Joaquin and Southern, defective	9 @ 11

### HAY AND STRAW.

There have been tolerably free arrivals of hay since last review, considering that the week was a short one, fully two days being cut off by holiday observances. In quotable values there were no pronounced changes, but the general tone was weak, the tendency of the market being in favor of buyers, especially for other than choice to select stock. Straw remained in light supply and brought comparatively stiff prices.

Wheat, good to choice	9 50 @ 12 50
Wheat and Oat	9 50 @ 12 00
Tame Oat, good to choice	9 50 @ 11 00
Wild Oat, fair to good	8 00 @ 10 00
Barley	8 00 @ 10 50
Clover	8 00 @ 10 00
Alfalfa	8 00 @ 10 00
Compressed	10 00 @ 12 50
Straw, 3 bale	45 @ 60

### MILLSTUFFS.

Bran was in fairly liberal supply, as compared with the demand, and market presented an easy tone. Middlings were quotably lower, with tendency still downward. Prices for other millstuffs remained as last quoted.

Bran, 3 ton	23 50 @ 24 50
Middlings	26 00 @ 28 00
Shorts, Oregon	24 00 @ 25 00
Barley, Rolled	22 00 @ 23 00
Cornmeal	27 50 @ 28 50
Cracked Corn	28 50 @ 29 50

### SEEDS.

Not much doing in this department, and of most kinds stocks are too light to admit of any special activity. Yellow Mustard is offering to arrive in considerable quantity, but there is little of the Trieste variety obtainable at present, either here or at producing points. Values for the several kinds below noted have developed no special changes since last report.

	Per ctt.
Alfalfa, Utah	— @ —
Alfalfa, Cal., good to choice	— @ —
Flax	2 00 @ 2 25
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25
	Per lb.
Canary	5 @ 5 1/2
Rape	1 1/4 @ 2 1/4
Hemp	3 1/2 @ 4

### HONEY.

Extracted of new crop is now in moderate supply in this center, including some of as fine quality as was ever presented for sale on any market. For strictly fancy 6c is asked, but large buyers refuse to take hold at this figure. There is considerable inquiry on local account for comb honey of high grade, this kind being in light supply and is salable in a limited way to very good advantage.

Extracted, White Liquid	5 1/4 @ —
Extracted, Light Amber	4 1/4 @ 5
Extracted, Amber	4 @ 4 1/4
Extracted, Dark Amber	3 1/4 @ 4
White Comb, 1-lb frames	11 @ 12
Amber Comb	8 @ 10
Dark Comb	7 @ 7 1/4

### BEESSWAX.

Market is practically bare, and there are orders here which will absorb all that is likely to arrive for some months to come.

Good to choice, light 3 lb	27 1/2 @ 29
Dark	25 @ 26

### LIVE STOCK AND MEATS.

Beef has been ruling steady, but demand was rather slow. Veal in prime to choice condition was in light receipt and did not lack for custom at full current rates. Values for Mutton and Lamb were maintained at about same range as preceding week, with offerings not particularly heavy, but enough to satisfy the somewhat limited inquiry. Hog market continued moderately firm, more particularly for medium and large, which were in much lighter receipt than the small sizes.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 3 lb	6 1/2 @ 7
Beef, 2nd quality	6 @ 6 1/2
Beef, 3rd quality	5 1/2 @ 6
Mutton—ewes, 8@8 1/2c; wethers	8 @ 9
Hogs, hard grain, 150 to 250 lbs.	8 @ 8 1/2
Hogs, large hard, over 250 lbs.	5 1/2 @ 6
Hogs, small, fat	5 @ 6
Lamb, small, 3 lb	9 @ 10
Lamb, Spring, 3 lb	10 @ —

### HIDES, PELTS AND TALLOW.

Demand for Wet Salted Hides has been lately showing some improvement, but quotable values remain unchanged. Dry Hides in desirable condition have been in fair request at steady figures.

While market is not noteworthy for activity, there is a moderate amount of business doing in this line and at quotably unchanged values.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	— @ 10 1/2	— @ 9
Medium Steers, 48 to 56 lbs.	— @ 9 1/2	— @ 8
Light Steers, under 48 lbs.	— @ 8 1/2	— @ 7 1/2
Heavy Cow Hides, over 50 lbs.	— @ 8 1/2	— @ 7 1/2
Light Cow Hides, under 50 lbs.	— @ 8 1/2	— @ 7 1/2
Stags	— @ 7	— @ 6
Wet Salted Kip	— @ 8 1/2	— @ 7 1/2
Wet Salted Veal	— @ 10	— @ 9
Wet Salted Calf	— @ 10 1/2	— @ 9 1/2
Dry Hides	— @ 17	— @ 16
Dry Kip and Veal, 11 to 16 lbs.	— @ 14	— @ 12 1/2
Dry Calf, under 4 lbs.	— @ 19	— @ 17
Pelts, long wool, 3 skin	1 00 @ 1 50	70 @ 90
Pelts, medium, 3 skin	— @ 40	— @ 35
Pelts, short wool, 3 skin	— @ 15	— @ 30
Horse Hides, salted, large prime, each	3 00	
Horse Hides, salted, medium	2 50	
Horse Hides, salted, small	2 00	
Horse Hides, dry, large	1 75	
Horse Hides, dry, medium	1 50	
Horse Hides, dry, small	1 25	
Tallow, good quality	6 1/4 @ 6 1/2	
Tallow, poorer grades	5 @ 5 1/2	

### BAGS AND BAGGING.

Prices for Grain Bags remain at a low range, and demand not very brisk for this time of year. Market for Fruit Sacks is firm for cotton and steady for jute, quotations remaining as last noted.

Fruit Sacks, cotton	6 1/4 @ 6 1/2
Fruit Sacks, jute, as to quality	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/4
Grain Bags, Calcutta, buyer June	— @ —
July	— @ —
Grain Bags, San Quentin, in lots of	2 00 @ 100
Wool Sacks, 4-lb	35 @ —
Wool Sacks, 3 1/2-lb	32 @ —

### POULTRY.

Large and fat chickens, more particularly full-grown young stock, met with a



good demand and a tolerably firm market, but for small young and common old there was no active inquiry and such had to go at rather low figures. There was no inquiry for Turkeys. Receipts of Ducks and Geese were light, as was also the demand, prices remaining virtually unchanged. Pigeons were not in large receipt, but with practically no competition among buyers, values were unimproved.

Hens, California, 1/2 dozen.....	4 50	@ 5 50
Roosters, old.....	4 50	@ 5 50
Roosters, young (full-grown).....	8 00	@ 10 00
Fryers.....	4 50	@ 6 00
Broilers, large.....	3 00	@ 4 00
Broilers, small to medium.....	2 50	@ 3 00
Ducks, old, 1/2 dozen.....	3 50	@ 4 50
Ducks, young, 1/2 dozen.....	4 00	@ 5 00
Geese, 1/2 pair.....	1 00	@ 1 25
Goslings, 1/2 pair.....	1 00	@ 1 25
Pigeons, old, 1/2 dozen.....	1 50	@ 1 75
Pigeons, young.....	1 75	@ —

#### BUTTER.

Strictly select fresh is in light receipt and favorite marks showing excellent quality are selling in a limited way up to 26c, but for the ordinary run of offerings the market is slow and weak. Large quantities of Eastern butter, creamery, ladle and process, have been lately landed here, mostly in cubes.

Creamery, extras, 1/2 lb.....	25	@ —
Creamery, firsts.....	24	@ —
Dairy, select.....	24	@ —
Dairy, firsts.....	23	@ —
Dairy, seconds.....	21	@ —
Firkin, good to choice.....	—	@ —
Mixed Store.....	17 1/2	@ 19
Pickled Roll.....	—	@ —

#### CHEESE.

There are no heavy stocks of domestic product of any description, the demand is fairly active and market is firm at prevailing rates. Western cheese is being offered at figures very close to prices ruling for domestic. Eastern is in fair supply.

California, fancy flat, new.....	12 1/2	@ —
California, good to choice.....	11 1/2	@ 12
California, "Young Americas".....	12	@ 13

#### EGGS.

Tendency was to a little more firmness on most select qualities of fresh from near-by henneries, but for the more common grades the market was without appreciable improvement. Eastern eggs are being offered within range of 14 1/2 @ 18c, the lower figure being the wholesale price for seconds.

California, select, large, white and fresh.....	21	@ —
California, select, irregular color & size.....	17	@ 20
California, good to choice store.....	16	@ 17

#### VEGETABLES.

Most kinds in season were in fairly liberal supply, but a large proportion of arrivals showed rather poor quality, and for this sort the market lacked firmness, while for choice to select tolerably stiff figures were in most instances realized. Prices averaged lower, however, than previous week. Tomatoes and Green Corn showed increased receipt. Onions were in a little better demand than preceding week, but offerings were ahead of requirements.

Asparagus, 1/2 box.....	1 25	@ 2 50
Beans, Lima, 1/2 lb.....	—	@ —
Beans, String, 1/2 lb.....	2 1/4	@ 5
Cabbage, choice garden, 1/2 100 lbs.....	75	@ —
Corn, Green, 1/2 crate.....	1 00	@ 1 50
Corn, Green, 1/2 sack.....	75	@ 1 50
Cucumbers, 1/2 large box.....	75	@ 1 25
Egg Plant, 1/2 lb.....	6	@ 8
Garlic, 1/2 lb.....	2	@ 2 1/2
Mushrooms, 1/2 lb.....	—	@ —
Onions, new Yellow Danver, 1/2 cti.....	60	@ 70
Onions, new Red, 1/2 sack.....	35	@ 50
Okra, Green, 1/2 lb.....	20	@ —
Peas, Sweet Garden, 1/2 lb.....	3	@ 4
Peas, good to choice, 1/2 sack.....	1 25	@ 1 75
Peppers, Green Chile, 1/2 box.....	75	@ 1 25
Peppers, Bell, 1/2 box.....	75	@ 1 25
Rhubarb, 1/2 box.....	—	@ —
Summer Squash, 1/2 large box.....	50	@ 75
Tomatoes, 1/2 crate.....	50	@ 75

#### POTATOES.

Market for New Potatoes declined sharply early the current week, in consequence of Eastern orders being cut off, the trade going to Oklahoma section, where Eastern buyers were being favored with lower prices and lower freight rates. Local and coast-wise trade was of only fair volume. Old Oregon Burbanks arrived in considerable quantity for this advanced date and were taken for seed at much the same figures as ruled the previous week.

River Burbanks.....	1 15	@ 1 25
River Reds, 1/2 cti.....	—	@ —
Garnet Chile.....	1 10	@ 1 25
Early Rose.....	1 00	@ 1 25
Old Oregon Burbanks.....	1 35	@ 1 50
New Potatoes, in boxes, per cental.....	1 30	@ 1 75

#### The Fruit Market.

##### FRESH FRUITS.

While there were liberal supplies of most kinds of fresh fruit now in season, it was the exception where there was a surfeit of offerings of choice to select quality. Apricots were offered rather freely in bulk and sold at a wide range, some common going as low as \$12 50 per ton, while choice Yellow were quotable up to \$30 and in some instances brought higher figures. Apples of the Red Astrachan variety are

beginning to be received in 4-tier boxes, a carload arriving from Biggs on Monday, with sales of same mainly within range of \$1.10 @ \$1.25 per box. Bartlett Pears in 40-pound boxes are coming forward, and where desirable for shipment are selling up to \$1.50, but ordinary windfalls are going at low figures. Peaches of high grade were in light receipt and sold well, but common were plentiful and cheap. Plums and Prunes were in increased supply and sold at lower average figures than last quoted. Figs were more plentiful and cheaper. Quotations for Grapes were marked down, under increased offerings. Cherries were in light supply, and choice to select ruled higher. Berries of the various kinds now arriving made a very good display, prices continuing at about the same range as last quoted. Watermelons, Cantaloupes and Nutmeg Melons were in increased receipt and tendency was to lower prices.

Apples, fancy, 1/4 4-tier box.....	—	@ —
Apples, good to choice, 1/2 50-box.....	1 00	@ 1 25
Apples, common to fair, 1/2 50-box.....	50	@ 75
Apricots, 1/2 crate.....	40	@ 75
Blackberries, 1/2 chest.....	2 50	@ 4 00
Cantaloupes, 1/2 crate.....	2 00	@ 3 50
Cherries, Black, in bulk, 1/2 lb.....	50	@ 85
Cherries, Black, good to choice, 1/2 box.....	50	@ 85
Cherries, Royal Anne, 1/2 lb.....	40	@ 8
Cherries, Royal Anne, 1/2 box.....	50	@ 80
Figs, Black, 2 layer, 1/2 box.....	40	@ 65
Figs, Black, 1 layer, 1/2 box.....	25	@ 40
Figs, White, 1/2 box.....	25	@ 50
Gooseberries, common, 1/2 lb.....	—	@ —
Gooseberries, English, 1/2 lb.....	—	@ —
Grapes, Seedless Sultanina, 1/2 crate.....	1 00	@ 1 25
Loganberries, 1/2 chest.....	1 50	@ 2 50
Nutmeg Melons, 1/2 crate.....	1 50	@ 2 00
Peaches, 1/2 box.....	40	@ 75
Pears, Bartlett, 1/2 box.....	75	@ 1 25
Plums, Burbank, 1/2 box.....	40	@ 50
Plums, Clyman, 1/2 crate.....	25	@ 40
Plums, Peach, 1/2 box.....	45	@ 60
Plums, Simoni, 1/2 box.....	50	@ 65
Prunes, Tragedy, 1/2 box.....	35	@ 50
Raspberries, 1/2 chest.....	3 50	@ 6 00
Strawberries, Longworth, 1/2 chest.....	4 00	@ 7 00
Strawberries, Melinda, 1/2 chest.....	2 50	@ 3 50
Watermelons, a piece.....	10	@ 30

#### DRIED FRUITS.

Although there is no great activity to note in the dried fruit trade, locally there is enough doing to give a tolerably clear idea of the general tone of the market for coming crop, and a fair conception of the probable range of values. Considerable business for this early date has been already effected in new Apricots, mostly within range of 7 1/2 @ 8c for carload lots of Royals in sacks at primary points, the lower figure being mainly for San Joaquin valley product and the higher price for fruit from the Winters-Vacaville district. For fancy an advance on top figure above named could very likely be realized, and certainly would have to be paid to secure any noteworthy quantities. Some transfers are reported in new crop Prunes for October delivery at 2 1/2 @ 3c for 40-100's, the top figure being for Santa Claras, and the business mainly on foreign account. New Pears have been offered in a speculative way at 7c for choice halves, and new Peaches of No. 1 quality at 4 1/2 @ 5c for September-October delivery, but there has been no business of consequence so far reported in either variety. That Plums will bring better prices than last season is admitted as a foregone conclusion, owing to the lighter crop and the higher figures being bid by canners, but no values have yet been established for this season's dried product. Stocks of last season's fruit are now light and quotations for the same at this date largely nominal.

#### EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/4	@ 4 1/2
Apples, extra choice to fancy, 50-lb box.....	5	@ 5 1/2
Apricots, Moorpark.....	8	@ 9 1/2
Apricots, Royal, good to choice, 1/2 lb.....	6 1/4	@ 7
Apricots, Royal, fancy.....	7 1/4	@ 8
Figs, 10-lb box, 1-lb cartons.....	65	@ 75
Neotaries, 1/2 lb.....	3 1/4	@ 4
Peaches, unpeeled, fair to good.....	3 1/2	@ 4 1/4
Peaches, unpeeled, choice.....	4 1/4	@ 4 3/4
Peaches, unpeeled, fancy.....	5	@ 6
Peaches, unpeeled, extra fancy.....	7	@ 7 1/4
Pears, halves, fancy.....	8	@ 9
Pears, halves, choice.....	5 1/4	@ 6
Pears, halves, fair to good.....	4 1/4	@ 5
Plums, Black, platted.....	4 1/4	@ 5
Plums, Red and Yellow.....	5	@ 5 1/4
Prunes, Silver, good to fancy.....	4	@ 4 1/4
Prunes, in bar, 4 sizes, 2 1/2 @ 2 3/4; 30-lbs, 5 1/4 @ 5 1/2; 50-60s, 4 1/4 @ 4 1/2; 60-70s, 3 3/4 @ 3 1/2; 70-80s, 2 1/2 @ 2 3/4; 80-90s, 2 @ 2 1/4; 90-100s, 1 1/2 @ 1 1/4; small, 1 1/4 @ 1 1/2.	—	@ —

#### COMMON SUN-DRIED.

Apples, sliced.....	3 1/4	@ 3 1/2
Apples, quartered.....	3 1/2	@ 3 3/4
Figs, White, in bulk.....	5	@ 5 1/2
Figs, Black, in sacks, 1/2 lb.....	4 1/4	@ 5
Plums, unpitted, 1/2 lb.....	1 1/2	@ 2

#### RAISINS.

Few raisins offering and not much demand, but a generally firm tone to the market. Quotations for 3 and 4-crown loose Muscatel have been advanced 1c.

Prices at common shipping points, crop of 1902: 2-crown London Layers, 20-lb boxes, \$1.10 @ \$1.15; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Dehessas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, 1/2 lb., 4-crown, 5 1/2c; 3-crown, 5 1/4c; 2-crown, 5c.

#### CITRUS FRUITS.

Oranges are not making much of a showing at present, either as to quantity or quality. The inquiry is also very light, other and more seasonable fruits receiving the preference. Lemon market remains quotable about as last noted, but is moderately firm for desirable qualities at the values ruling. Stocks of Limes were in-

creased by fresh arrivals from Mexico; prices were maintained at same range last quoted.

Oranges, Washington Navel, 1/2 box.....	1 00	@ 2 50
Oranges, Valencia, 1/2 box.....	1 50	@ 3 00
Oranges, Mediterranean Sweets.....	75	@ 1 25
Lemons, California, select, 1/2 box.....	2 75	@ 3 00
Lemons, California, good to choice.....	2 25	@ 2 50
Lemons, California, fair to good.....	1 25	@ 2 25
Grape Fruit, 1/2 box.....	75	@ 2 00
Limes, Mexican, 1/2 box.....	5 50	@ 6 00

#### NUTS.

Almonds are not in heavy supply, but inquiry for them is light, and to effect free sales concessions to buyers would have to be granted; quotable values remain nominally as before. Walnuts are almost out of stock; No. 1 are selling up to 15c in a small way. Peanut market is showing steadiness, stocks being only moderate.

California Almonds, shelled.....	16	@ 30
California Almonds, paper shell.....	11	@ 12
California Almonds, soft shell.....	8	@ 10
California Almonds, hard shell.....	5	@ 5 1/2
Peanuts, California, fair to prime.....	4 1/2	@ 5 1/2
Peanuts, Eastern, hand-picked.....	5 1/4	@ —
Walnuts, White, soft shell.....	14	@ —
Walnuts, White, standard.....	—	@ —

#### WINE.

The wholesale market is showing very little life. While quotable values for dry wines remain nominally as last noted, under selling pressure full figures could not be realized. To buy freely 17 @ 20c. would have to be paid, as to quality, and probably an advance on latter figure for some selections, but on stock crowded to sale 1 @ 2c. less than prices above named would be likely all that could be realized. Receipts of wine at San Francisco last week aggregated 274,700 gallons. The steamer Peru, sailing on 3rd inst., carried 96,692 gallons, of which quantity 89,392 gallons was for New York.

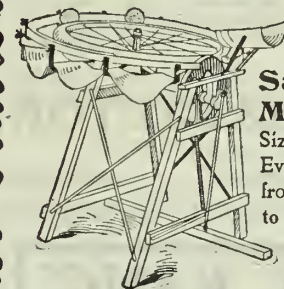
**W. A. PLUMMER,**  
Importer and Manufacturer of

**GRAIN BAGS,**  
**Twines,**  
**TENTS, AWNINGS AND WAGON COVERS.**

111 CLAY STREET,

San Francisco, Cal.

#### PNEUMATIC FRUIT GRADER



**Saves Money.**  
Sizes Everything from Plums to Oranges

Packers and shippers of deciduous fruits will find this a perfect sizer which handles the fruit gently between two soft pneumatic cushions. No bruising. Has been used on ripe Georgia peaches for two seasons with entire success. Write for complete description and price. **Wright Brothers, Riverside, Cal.**

#### SUGAR, \$4.65 FOR 100 LBS.

This is the very best cane dry granulated sugar. One sack with sample grocery order. Write for Catalogue, free. C. M. GARDNER & CO., room 310, 708 Market Street, San Francisco.

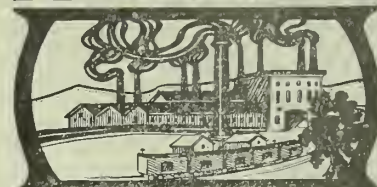
#### PAGE

#### Our Spring Sales

prove that Page Fence quality is appreciated. **PAGE WOVEN WIRE FENCE CO., Adrian, Mich.**



## MALTHOID ROOFING



The new high grade roofing for low cost work. On sheds, factories, warehouses, barns, depots, wharves. All buildings of large roof surface that require protection from the elements. A better roofing at the same price has never been produced.

Send for booklet.

#### The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



#### CITRUS TREES

That will grow, bear profitable crops, and are true to name, are the only kind that we propagate. Thirteen years in the citrus nursery business — hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture free; send for a copy.

**SAN DIMAS**  
**CITRUS NURSERIES**  
**SAN DIMAS,**  
**R. M. TEAGUE CAL.**

## PATENTS

#### OBTAINED

IN ALL

#### CIVILIZED COUNTRIES.

**EXPENSE SAVED INVENTORS BY PRELIMINARY SEARCHES.**

**COMMUNICATIONS CONFIDENTIAL.**

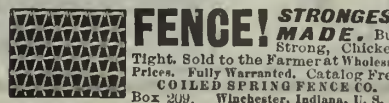
Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports since 1793, with full copies of U. S. Patents since 1870. As a result we are able to give reliable advice as to the patentability of an article, frequently saving the inventor the cost of an application. Our Washington branch tends exclusively to our business before the Patent Office. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, including filing of Caveats Trade-Marks, Copyrights, Labels; prepare Assignments, Licenses and Agreements; give Opinions on Patentability and Infringements, etc. Circulars free on application.

#### DEWEY, STRONG & CO.,

(ESTABLISHED 1860.)

#### PATENT AGENTS,

330 Market Street, San Francisco, Cal.  
and 918 F Street, Washington, D. C.







Entrance to Park.

Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 1,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE

KEARNEY PARK, FRESNO, CALIFORNIA

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. **"The Smyrna Fig at Home and Abroad,"** by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000

FANCHER CREEK NURSERIES Inc.

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 16

FRESNO, CAL.

## AND STILL ANOTHER!

SACRAMENTO, CAL., June 13, 1903.

BAKER &amp; HAMILTON, San Francisco, Cal.

Gentlemen:—We do not hesitate to say that the Simplex Separator you placed in our creamery, on trial, has come up to our fullest expectations. We are very much pleased with the results of this machine. Having the capacity of 3500 lbs. of milk per hour, it is easy and simple to clean, while it skims thoroughly up to its full capacity. We have found no other machine superior to it in any respect, and would be pleased to recommend it to anyone desiring an up-to-date separator.

Very respectfully,  
BARTON-FISHER CREAMERY,  
S. N. NASH, Mgr.

Send for Complete Printed Matter and New 1903 Creamery Catalogue.

## BAKER & HAMILTON,

Sole Coast Agents,

SACRAMENTO,

SAN FRANCISCO,

LOS ANGELES.

## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. **Specially Adapted to Distillate Emulsion.** We publish a booklet entitled **"When to Spray and Why,"** and mail it free to all interested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO.,** Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

### BELLE CITY Thresher

Full Line of Sweep and Tread Powers.

A small and compact thresher of great capacity. Strongly built. Can be run by light power. Requires but a few men to operate it. Guaranteed.

A Time and Money Saver.

### Feed and Ensilage Cutter.

Ensilage cutters have self-feeder and blower attachments. Write for book about ensilage, illustrated catalogue and price list—free.

**BELLE CITY MFG. CO.,**  
Box 114, Racine, Wis.

## THE VETERINARIAN.

Texas Fever.

By ARCHIBALD R. WARD, Veterinarian and Bacteriologist, University of California, Berkeley.

**SYNONYMS.**—Other names by which the disease is known are: Southern cattle fever, bloody murrain, splenic fever, red water, tick fever, etc.

**SYMPTOMS.**—In the acute (severe) type of the disease a fever is noticed, and results in dullness, lack of appetite and constipation. The pulse and respiration both increase in rapidity. The muzzle and mouth may be dry and the head usually droops. Affected animals usually prefer to stand in water. Some animals exhibit extreme dullness, but others may be delirious and unusually active. The one most characteristic symptom is the voiding of dark, blood-colored urine by animals in the advanced stages of the disease. When any considerable number of animals are affected, some of them are quite sure to exhibit this symptom, which is of great value in recognizing Texas fever to those unfamiliar with it. During the progress of the disease the victims grow steadily weaker, appearing pale and bloodless. The attack may run a week, and result in death or slow recovery, frequently with relapse. Deaths frequently occur within a few days after the animal is noticed to be ailing. In some animals, not very susceptible to the disease, it assumes a mild type, manifested by dullness, lack of appetite and costiveness. Texas fever is exclusively a cattle disease and is active during hot weather.

**POST-MORTEM APPEARANCES.**—The liver and spleen (milt) are the organs most usually altered in appearance. The liver is enlarged, and the organ is not as tough as in health. The color is usually brownish yellow, due to bile dammed up in the biliary vessels. The gall bladder is distended with thick, tarry bile. The spleen is enlarged, and if cut open the contents will flow out slowly like thin jam. The blood is noticeably thin and pale. There occur other changes not readily recognized by persons unfamiliar with the study of diseases.

**CAUSE OF THE DISEASE.**—The above mentioned changes in the body, and others that can be detected only with the microscope, are caused by minute animal parasites in the blood. The red blood corpuscles are infested with the parasites, which bring about the destruction of the corpuscles and prevent the blood from performing its natural function in the body. The blood-colored urine, in severe cases, is an evidence of the breaking down of these corpuscles, resulting in the discharge, through the urine, of the red coloring matter of the blood, which is normally carried by the corpuscles. The microscopic examination of the blood of an affected animal will reveal the parasites imbedded in the corpuscles, but visible only as small round or pear-shaped dots, even with the best microscope. The parasites are always present in the blood of an animal sick with Texas fever, but under certain conditions may be present in limited numbers without causing sickness.

**HOW TEXAS FEVER IS SPREAD.**—For all practical purposes we consider the disease as being communicated from one animal to another by means of the cattle tick (*Boophilus annulatus*), and by no other species of tick. The disease is not known to be spread by any other means. The habits and life history of this tick are intricately involved in the spread of the disease and furnish explanation for all of the principal peculiarities observed in the spread of Texas fever.

The cattle tick lives a parasitic life, usually in some unexposed place, upon the hide of cattle, sucking the blood. If the blood of the host contains the Texas-fever parasites, as is practically always the case, the ticks become infested with them. When the female ticks reach maturity (one quarter to a half inch long) they loosen their firm hold upon the skin and drop to the ground. Each female may lay from 1200 to 3000 eggs, after which she

## Five Cases of Spavin Cured.

Buffalo, N. Dak.,

Jan. 26, 1903.

Dr. B. J. Kendall Co.,

Gentlemen:—I

have cured five

horses absolutely

of Spavin in the

last four years with

your Kendall's

Spavin Cure.

Very truly yours,

Harry D. Ruettel.

The endorsement

of its users guaran-

tees its merits.

Price \$1; six for \$5. As a titment for family use

it has no equal. Ask your druggist for KENDALL'S

SPAVIN CURE, also "A Treatise on the Horse,"

the book free, or address

DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.



dies. The eggs hatch in about twenty days, but the hatching may be retarded or prevented by unfavorable conditions, chief among which is brilliant sunlight.

The young ticks, when not clustered together, are readily killed by water; and a temperature of 15° F. for twenty-four hours will kill them. They are endowed with an instinct to climb upon cattle within a few days after hatching, if opportunity occur; but in the absence of cattle (or horses) they will starve in time. If the female tick has been nourished with blood containing the Texas-fever parasites, all the young ticks hatching from her eggs will contain the Texas-fever parasites. When such a young tick gains access to an animal and sucks blood, the Texas-fever parasites are imparted to the blood of the animal upon which the young tick is living. If the animal infested by the young ticks is susceptible to Texas fever, the disease will appear in about ten days after the ticks get on it. The ticks mate shortly after infesting an animal, and nowhere else; after which they become firmly fixed to their host without leaving the animal until ready to drop off, as already described.

Since cold weather kills ticks, their eggs and young, the species in question is limited to mild climates. During the summer, ticks may be introduced into the northern part of the United States and occasion immense damage, but the rigorous winter climate exterminates the ticks and consequently the disease.

There are several species of ticks that occasionally are found on the hides of cattle or in their ears, but only one kind, popularly known as the "fever tick," is concerned with the Texas fever. This species practically always contains the Texas-fever infection, unless it has been parasitic upon the horse, which occurs sometimes.

The seventeenth annual report of the Bureau of Animal Industry at Washington contains a description of the cattle ticks of the United States, together with colored illustrations. The book can in most cases be obtained from members in Congress, or by purchase from the Superintendent of Documents, Union Building, Washington, D. C. The Veterinarian of the Agricultural Experiment Station at Berkeley will be glad to identify specimens of ticks sent by mail.

**WHY TICKS MAY INFEST CATTLE WITHOUT CAUSING TEXAS FEVER.**—Among a herd of cattle infested with the Texas-fever ticks the calves become infested with ticks when very young, and suffer a mild attack of Texas fever. Calves withstand the disease readily and seldom die. As a result of this attack, they grow up practically immune to the disease, and are usually able to tolerate the presence of numerous ticks upon their bodies. This immunity is not absolute, for animals excessively covered with ticks may again contract the disease under especially unfavorable conditions with fatal results. The fact that animals may bear ticks without necessarily contracting Texas fever has induced some people to refuse to believe that ticks are dangerous under any conditions. Such a view of the matter is indefensible.

**CONDITIONS UNDER WHICH TICKS ARE DANGEROUS.**—All cattle other than young calves are liable to contract a serious type of Texas fever when first bitten by infectious ticks. The disease is therefore a menace to all cattle raised in regions where cattle ticks do



not exist. Whenever tick-infested cattle come in contact with non-immune, i. e., tick-free, cattle, some of the latter will contract the disease after ten days or more. Worse yet, the disease may be contracted by susceptible animals by feeding upon a range formerly occupied by tick-infested cattle, for young ticks may be present waiting to attach themselves to the cattle. Losses will occur from Texas fever when tick-infested southern cattle are taken north among non-immunes, just as soon as a female tick drops off to the ground and the second generation gets upon the northern cattle. Northern-bred animals will contract the disease when taken among ticks. An animal may be bred in the south in close proximity to ticks and yet escape them until it reaches adult age, when it will suffer from the disease if infested by ticks.

**THE FEDERAL QUARANTINE LINE.**—To restrict the movement of cattle from tick-infested regions to tick-free regions, the United States Department of Agriculture has established a quarantine line across the continent from the southern boundary of Virginia to the Bay of Monterey, in California. In California the Federal quarantine line lies as follows: "Beginning on the Pacific Coast where the northern boundary line of Monterey county connects with the Pacific ocean; thence easterly and southerly along the northern and eastern boundary line of Monterey county to its junction with the western boundary line of Fresno county; thence northerly along the western boundary line of Fresno county to the western corner thereof; thence northerly, easterly and southerly along the western, northern and eastern boundary line of Merced county to the southeastern corner thereof; thence northeasterly along the northern boundary line of Madera county to the northeast corner thereof; thence southerly and easterly along the eastern boundary lines of Madera, Fresno and Tulare counties to the southeast corner of Tulare county; thence easterly along the southern boundary line of Inyo county to its intersection with the eastern boundary line of the State of California."

The line marks the southern boundary of the region free from ticks, and is moved from time to time as the ticks are exterminated from pieces of territory contiguous to the line on the south, or as the ticks encroach upon the territory to the north of the line. Under the regulations of the United States Department of Agriculture and the laws of California the movement of cattle across the line is restricted so as to minimize the losses from Texas fever. Tick-infested cattle destined to a slaughter-house may be taken across the line at any time, but others from certain districts may be transported across the line only when inspected by State or county inspectors and pronounced free from ticks. There are many districts south of the quarantine line in California that are free from ticks, and consequently cattle therein should be and are allowed to be taken north after inspection. For more exact information concerning the regulations affecting the movement of cattle, address inquiry to the State Veterinarian, Sacramento, Cal.

**INOCULATING FOR TEXAS FEVER.**—Moving susceptible animals into tick-infested regions is always attended with risk. Calves taken in during the winter have the best chance to escape. At that time the ticks are not numerous, and the age of the calves and the climatic conditions of winter favor their recovery when infested by the ticks. But there are numerous occasions when it would be desirable to move susceptible adult animals on to tick-infested ranges, and in consequence an operation known as inoculation or vaccination has been devised. The process consists in transferring to the susceptible animal some blood from a tick-infested animal, and thereby producing an attack of the disease usually mild and not fatal—that is, the animal is artificially immunized against Texas fever. The operation is sometimes designated vaccination. It is most

safely performed in California during the winter months and at a time when feed is good, as these conditions are conducive to the recovery of the animal from the inoculation attack of the fever.

The existing methods of inoculation for Texas fever have hardly been simplified enough to justify recommending their use by men unskilled in the work. Inoculation, unless performed by a man thoroughly familiar with the disease, is liable to lead to disastrous results. The writer believes that he is ministering to the best interests of stockmen in advising the employment of a competent veterinary surgeon to do the work. This so-called vaccination is not a remedy, and should not be practiced upon sick animals.

**RECOGNITION OF TEXAS FEVER.**—The disease is not difficult to recognize. Practically always the history of the outbreak shows that there has been the movement of one or more animals in such a way as to result in the infestation of non-immune animals by ticks. One must not expect to succeed in finding the ticks upon a freshly infested animal, for they are so small as to practically elude discovery. The fact that they could not find ticks on the affected animals has led many stock owners to erroneously conclude that their cattle were not suffering from Texas fever. Further facts to assist in recognition are fever, gradually increasing weakness and voiding of red-colored urine. Conclusions may be further strengthened by examining the liver and spleen after death. Hogs are not injured by eating the flesh of cattle dead of Texas fever.

**TREATMENT OF TEXAS FEVER.**—Removal of the animals from the infested range is essential. The removal of the ticks is desirable, but attended with considerable difficulty. With large numbers of range stock this is accomplished with more or less completeness by dipping the animals in a large vat constructed for the purpose and containing some substance harmful to the ticks. A grade of oil known as extra dynamo oil has been used, floating in a layer several inches deep on the vat of water. One per cent of sulphur has been found to improve its action. Fish oil has been used successfully in the same manner in a vat or has been applied to tame cattle by hand, with satisfactory results. Cooper Curtice suggests the following mixture: Kerosene and lard, one gallon of each; sulphur, one pound; pine tar, two pounds. Melt the lard, to which should be added the tar and sulphur, all of which is brought to the boiling point. Cool, and stir in the kerosene. This is to be rubbed over the animal daily. Such treatment is only applicable to small numbers of domesticated animals.

Cottonseed oil has been used with success on small numbers of cattle. Practically all of the numerous dips that have been devised are unsatisfactory in some respects. Some injure the health of the animals, especially the eyes; others are inefficient in not killing the ticks with one dipping. Oil dips, on the whole, are the most satisfactory of all the various dips that have been tested for killing ticks. The operation of dipping, however necessary, sometimes tends to aggravate the disease.

Medical treatment is practicable only when it is desired to save some particularly valuable animal. A dose of a pound and one-half of Epsom salts, together with an ounce of ginger, should be given in a drench. Dr. J. C. Robert of the Mississippi Agricultural Experiment Station advises the following treatment: "Administer bisulphate of quinine in from 60 to 120 grain doses, dissolved in one-half pint of water. Give the quinine every two to four hours as long as the temperature of the animal remains above 103° Fahr., then gradually decrease the dose. Should the animal grow weak, it should have combined with the quinine from one to three ounces of alcohol or twice that amount of whisky. When improvement commences, the administration of an iron tonic will be found of value. We may prepare such a tonic by the use of powdered sulphate of iron 2 parts, powdered nux vomica 1

part, powdered gentian root 1 part, sulphate of soda 2 parts and common salt 4 parts; mix these ingredients and give to a grown animal from one to one and one-half heaping tablespoonful in feed twice daily. Too much pains can not be taken with nursing a case of Texas fever. The high fever incident to the disease rapidly exhausts the animal's strength, and unless the proper nourishment and care are given, death may result before we look for it. Give tempting, nutritious, laxative diet and pure drinking water. If the animal refuses to eat, drench every four hours with one quart of sweet milk in which has been beaten four or six raw eggs."

**THE ERADICATION OF TEXAS FEVER.**—Since practically the tick alone spreads the fever, the extermination of the tick from a district frees that place from Texas fever. Removal of cattle from the infested range and persistent dipping will clean the cattle of ticks. Exclusion of cattle from a piece of infested territory for two winters and the intervening summer will free the place of ticks, which starve out for lack of a host. These measures are chiefly relied upon along the quarantine line to exterminate the tick, resulting in the removal of the line to a point south of the freshly cleaned territory. The great difficulty in accomplishing the work lies in the difficulty in persuading all stock owners to see the desirability and necessity of eradicating the tick and in inducing them to work together.

#### Answers to Inquiries.

By E. J. CREELEY, D. V. S., Dean of S. F. Veterinary College, 510 Golden Gate Avenue.

#### REMOVABLE OBSTRUCTION IN COW'S TEATS.

TO THE EDITOR:—I have a cow that at last calving time (last October) had an obstruction in one teat. I probed it and got the milk, but it would take me about an hour to milk her, so I finally dried that teat up. Can I have an operation performed on that teat and regain the use of it, or what would you advise in the matter?

Will a cow give as much milk from three teats as from four?—SUBSCRIBER, Ceres.

A simple operation can be performed which will permanently remove the obstruction.

No: a cow will not give as much from three teats as from four.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

OUR SPECIALTY IS  
**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

**CHEAP RATES** California, Washington, Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free)  
**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

Telephone Main 199.  
**Blake, Moffitt & Towne,**  
**DEALERS IN PAPER,**  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, MCFALL & CO., Portland, Or

## SHARPLES TUBULAR CREAM SEPARATOR

Buckets, Buckets, A Multitude of Buckets.

Buckets full of radish graters, buckets full of discs, buckets full of vanes, buckets full of blades, buckets full of contraptions. All separators have these "bucket bowls" except just one, the Tubular; a distinct type, an improved separator entirely different from all others. Simple, convenient, safe, durable and efficient. Skins closer and requires less power to run than any other separator. Free catalogue No. 131.  
THE SHARPLES CO., P. M. SHARPLES, Chicago, Illinois. West Chester, Pa.



## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS. MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## JUNIOR MONARCH HAY PRESSES.



Standard and 3/4 Bale Sizes.

Manufactured and for Sale by

**L. C. MOREHOUSE.**

WM. H. GRAY, Agent, San Leandro, Cal.

## HEALD'S

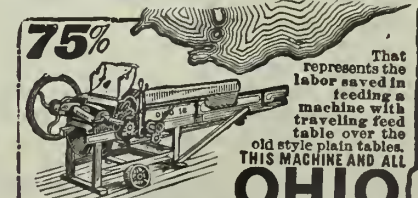
**BUSINESS COLLEGE,**  
24 Post Street, San Francisco, Cal.

The Leading Commercial School West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.



**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage"

BY PROF. F. W. WOLL  
AN ACRE OF CORN  
and its possibilities.

Gen'l Agts.

**HOOKE & CO.**  
16-13 Drumm St.  
SAN FRANCISCO

Price, 10c in stamps



## FRUIT PRESERVATION.

## Why Not Bitter Orange Marmalade?

To THE EDITOR:—I noticed in a recent issue a query from a correspondent regarding the making of orange marmalade: exploiting the astonishing theory that the white inner pith of the fruit yields the preserves' flavor. Probably the grape fruit was taken as a criterion: or confused with its sweeter relative. The most characteristic flavor of the rind of both orange and lemon, of course, as you intimated, are borne by the essential oil of the outer skin: in a degree varying somewhat with the species. The inner white rind is as tasteless, and even more indigestible, than paper pulp.

This brings me to a subject affecting large preserve manufacturers in California: particularly south of San Francisco. How is it that a bitter orange marmalade of native manufacture is unknown? The home product is far too sweet for health: but for one I am tired of paying 35 cents, and often over, for so-called "Scotch" marmalade, that retails on the island of its manufacture at from 6 to 8 cents for that particular quality. Yet with all its faults of added glucose necessitated by shipping considerations and other adulterations due to dear fruit, it contains less excess of sugar and greater tonic properties than the brands of home manufacture.—ALAN OWEN, The Mesa, Santa Barbara.

The reason why no bitter orange marmalade is made in California is because no bitter oranges are grown. The marmalade orange par excellence is the orange of Seville or Citrus bigaradia. As this is worthless except for marmalade, there is as yet no inducement to grow it, because our marmalade making is thus far an effort to make profitable use of the surplus sweet oranges which otherwise would go to waste. Our manufacturers have not yet perhaps reached the art of adding the bitter to the sweet orange, and so our marmalade product remains sweet.

## California Dried Fruits in Germany.

While in the United States last year, I visited a number of the larger prune and apricot orchards in the vicinity of San Jose, Cal., and since my return to this country have given the importation of evaporated American fruits considerable study. For this part of Germany—namely, Baden and Alsace-Lorraine—I find the outlook for increased sales most encouraging. From the leading importer in the western part of Germany I learn that California prunes and apricots are rapidly supplanting the products of France and Italy. The California fruit is cheaper and its flesh brighter and more solid.

Speaking of the packing and drying of prunes and apricots, my informant tells me he has no fault to find, except with the manner in which the boxes are put together. He says there would be less breakage if they were dovetailed instead of being simply nailed.

Regarding the time in transit, he says that he has experienced considerable annoyance and some loss of trade in consequence of shipments being delayed en route from California. One shipment was over ten weeks on the way; the buyers think the goods were held in New York several weeks. California fruits are generally paid for in advance, which fact makes delays in shipments especially annoying.

The Elsassische Conserven-Fabrik und Import Gesellschaft, of Strassburg, last season sold eight carloads of apricots, ten carloads of prunes, and twenty-five carloads of evaporated apples. Prunes and apples retail here at from 12½ to 15 cents per pound and apricots at 20 cents.

JOSEPH I. BRITAIN, Consul.  
Kehl, May 29, 1903.

## Breeders' Directory.

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS**. Service bulls of noted strains. Joseph Malliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheer, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**THOROUGHbred POLAND-CHINA** FOR SALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**SANTA TERESA POULTRY FARM**, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**BRONZE TURKEYS**. Ed. Hart, Clements, Cal.

## SHEEP.

**R. H. CRANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY**, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS**, Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2022, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

## FOR SALE.

## Dairy-Bred Shorthorn Bulls.

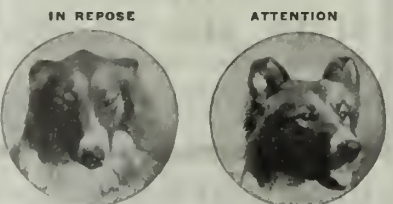
Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS. All Inoculated for Texas Fever, at CHOWCHILLA STOCK FARM. Address... ISAAC BIRD, Merced, Cal.

**NO HUMBUG.** Three Swine V., Hook Marker and Calf Dehorners. Stops swine from rooting. Makes 40 different ear marks. Extrude Horses. Price \$1.50. Send \$1 for trial. If it suits, send balance. Pat'd May 6, 1902. Use and Calf Holder only the FARMER BRIGHTON, FAIRFIELD, IOWA.



"CLIFF," REGISTERED A. K. C. No. 70,011. If you need a dog to herd your cattle, GET THE BEST! The best is a Thoroughbred Scotch Collie.

We have Puppies and full-grown stock constantly on hand. For particulars giving pedigree, etc. Address, Toyakano Kennels, Colfax, Placer Co., Cal.

**DEWEY, STRONG & CO.**, San Francisco, Cal., and Washington, D. C.

**U S U S U S U S U S**

**Uncle Sam Knows a Good Thing**

When he sees it, which is the reason he takes so much pride in the

**U. S. CREAM SEPARATOR**

The U. S. has many points of superiority, but the following three are sufficient to make it

The most desirable to own:

- Clean Skimming. Holds the World's Record.
- Safety. All gears entirely enclosed in iron case.
- Durability. Most thoroughly and substantially made.

For further information, write for illustrated catalogue.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

**Vermont Farm Machine Co., Bellows Falls, Vt.**

**U S U S U S U S U S**

CHAS. D. PIERCE, Pres.

W. FRANK PIERCE, Vice-Pres.

**RIVERSIDE HERD HOLSTEINS.**

**DE KOL OF VALLEY MEAD.**  
7 day A. R. O. record  
19 lbs. 9 oz. butter.

**ROMEO AAGGIE ACME.**  
7 day A. R. O. record  
26 lbs. 11 oz. butter.

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered. Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.
Romeo Aaggie Acme	431	7 yr.	26.11 oz.	Corona Cliff Jen	410	6 yr.	16.3 oz.
Eldezza	570	4 "	25 "	Minnewawa Saimbo, 3 tests	403	4 "	16.1 "
Matty Clay's Aaggie 2d	499	7 "	23.15 "	Mountain Juliet	382	7 "	15.14 "
Netherland Maud Moore	511	5 "	23.11 "	Minnewawa Duchess, 3 tests	338	4 "	15.6 "
Minnewawa Louise	510	4 "	22.9 "	Lady Kurts Alpa	378	6 "	15.2 "
Nicolo De Kol	6 "	22.4 "		Pauline Sadie De Kol	367	3 "	15.2 "
De Natsey Baker	484	3 "	21.10 "	Eva Blanco	355	2 "	14.5 "
Ruda 2d Belle	401	7 "	20.9 "	Corona Acturae	344	2 "	14.1 "
De Kol Konigen Van Freisland	440	8 "	20.9 "	Korndyke Pietertje Queen	300	2 "	13.14 "
Minnewawa Lily	364	4 "	21.4 "	Aral a De Kol	332	2 "	13.7 "
Drusky Artis	460	6 "	20.4 "	Oleander De Kol	324	2 "	13.1 "
Griselda of Brookfield	512	6 "	20.3 "	Rjaneta Cloibilde 2d	312	2 "	13.2 "
De Kol of Valley Mead	435	4 "	19.9 "	Segriss Pietertje De Kol 2d	355	2 "	12.11 "
Wynetta Princess	391	2 "	18.7 "	Western Princess	294	3 "	12.11 "
Drusa	398	5 "	18.4 "	Painted Lady	327	3 "	12.10 "
Wakalona	393	5 "	18.3 "	Mary Ann De Kol	391	3 "	12.10 "
Olympia Clay	526	6 "	18.2 "	Miranda Acturae	325	3 "	12.3 "
Victor Edwille 2d	371	4 "	17.9 "	Rhoda De Kol Colantba	353	2 "	12.6 "
Cascade Princess	479	8 "	17.2 "	Hengerveld Lass	308	2 "	12.2 "
Western Duchess	387	7 "	16.6 "	Princess Louise De Kol	249	2 "	12 "
Aaggie Martin	416	6 "	16.12 "				
Roma Princess	368	3 "	16.8 "	Wild West De Kol	279	2 "	10.10 "

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

**PIERCE LAND AND STOCK CO.**

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. Phone, SOUTH 103. STOCKTON, CAL. Phone, SUBURBAN 281.

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the **BEST**

MANUFACTURED BY

**N. OHLANDT & CO.**, Indiana and 24th Sts., San Francisco.

**MIDLAND FEED.** THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

**HOLSTEIN CATTLE.**

**SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.**

**ALL THE LEADING FAMILIES OF THE BREED.**

Every sire directly imported from Herds of the Greatest Eastern Breeders.

Large Number of Officially Tested Cows. Bull Calves from Great Producing Dams.

Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.

**PARSONS' NEW FRUIT EVAPORATOR.**

Result of nineteen years' experience. A complete success. Capacity, 1 to 10 tons and upwards. Simple, safe, reliable, economical. Any fuel. Wood or wire trays. Trays piled on cars and all work done on same level. Trays dry evenly. Just the thing for finishing late prunes. Solves the problem of drying olives. Will dry anything. No machinery. Write at once to L. W. PARSONS, Pollard Road, Campbell, Cal.

**DEWEY, STRONG & CO.**  
PATENTS  
330 MARKET ST. S.F.

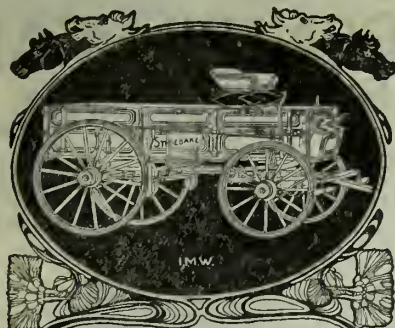
**School of Practical, Civil, Mechanical, Electrical and Mining Engineering.**

Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. A. VAN DER HULLEN, Pres't. Assaying of Ores. \$25; Bullion and Chlorination Assay, \$35; Blowpipe Assay, \$10. Full course of assaying, \$60. Established 1864. Send for Circular.

**PRINTING.** We furnish all stock and do printing at the following prices: 100 envelopes 40 cts., 500 \$1.25, 1000 \$1.75. Bill heads, note heads, cards, tags, etc., at same price. Samples of work free. Pacific Commercial Co., 325 Davis St., San Francisco, Cal.





## Do Not Err

in choosing the wagon you shall buy this year. You are part of the Great West. Its peculiar climate makes special requirements in vehicles. This year and every year it's the

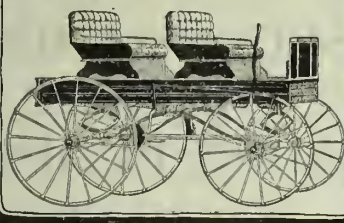
## Studebaker

### Improved Mountain Wagon

that is adapted to your region. It's the dry climate wagon—the wagon of strength and staying qualities, the wagon with a good record, the wagon that is made to be in keeping with the life, the energy, the hustling disposition of the vigorous manhood that has come in and possessed the country.

Everything in Vehicles,  
Everything in Harness,  
to meet your wants. Keep in touch with the line that has value for you. Studebaker local dealers must everywhere. Get our catalog from them or write us.

**Studebaker Bros. Mfg. Co.,**  
SOUTH BEND, IND.  
San Francisco, Portland, Ore., Salt Lake City.



## SAFE INVESTMENT.

Bonds Secured by Real Estate, Certified by Trust Company; pays 5 per cent interest, payable every 6 months.

Address for information,  
I. J. TRUMAN, Call Building, San Francisco.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

### WANTED.

## EXPERIENCED BUDDERS.

Write to FRESNO NURSERIES, Dinuba, Cal.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING JUNE 23, 1903.

- 731,651.—BICYCLE RACK—J. J. Allen, Portland, Or.
- 731,742.—WELL LINING—J. W. Beaumont, Los Angeles, Cal.
- 731,661.—DISTRIBUTING SYSTEM—F. C. Birch, S. F.
- 731,859.—TOOL—W. R. Clark, Tehachapi, Cal.
- 731,875.—STEERING DEVICE—Elder & Nauman, Oxnard, Cal.
- 731,669.—DRILLING MACHINE—J. G. Heimrich, Seattle, Wash.
- 731,570.—NOZZLE—G. J. Henry, Jr., S. F.
- 731,571.—TESTING APPARATUS—G. J. Henry, Jr., S. F.
- 731,681.—CANDY PULLING MACHINE—W. E. Henry, S. F.
- 731,777.—MATTRESS—J. Hoey, S. F.
- 731,465.—HARVESTER—F. L. Kincaid, Stockton, Cal.
- 731,918.—OIL TANK—G. B. Landers, Bakersfield, Cal.
- 731,793.—JAR CLOSURE—J. A. Landsberger, Alameda, Cal.
- 731,590.—LEACHING ORES—C. W. Merrill, Alameda, Cal.
- 731,610.—FUMIGATING TENT—W. H. Payne, Montevia, Cal.
- 732,628.—COMPOSITE BAR—R. H. Raphael, Los Angeles, Cal.
- 731,594.—TROLLEY FINDER—G. T. Roberts, San Diego, Cal.
- 731,628.—BRAKE—J. W. Spencer, Lagrange, Or.
- 731,631.—EXTRACTING GOLD—J. T. Terry, Jr., Alvarado, Mexico.
- 731,976.—DREDGER—Thunen & Cheshire, Oroville, Cal.
- 731,978.—JOURNAL BEARING—J. Tobin, S. F.
- 731,634.—ORE MILL—G. R. Tuttle, Grass Valley, Cal.
- 731,641.—BABY JUMPER—G. W. Wheeler, Everett, Wash.
- 731,727.—ROCK DRILLS—W. W. Word, Soulsbyville, Cal.
- 731,728.—ROCK DRILLS—W. W. Word, Latrobe, Cal.

## AGRICULTURAL ENGINEER.

### How to Get Good Roads.

One great reason for the prevalence of bad roads throughout the United States is lack of agreement and united action among the advocates of improvement. Everybody prefers good roads to bad. Everybody knows that the roads can be improved only by the expenditure of money and labor. But here the agreement ends. There is a great variety of ideas and schemes for securing the desired object. There is no end of discussion, but very little is accomplished. Some people would rather travel through mud than to have the roads improved by any other plan than their own "pet scheme." Thus road reformers themselves actually hinder the cause to which they are devoted.

If the roads of the country are to be made good within the lifetime of the present generation, it is high time the advocates of good roads should unite in support of a few general propositions, and go to work in favor of a general plan. If a national good roads movement ever gets started, nothing can stop it. It will sweep everything before it. But the difficulty is to get it started.

One great advantage possessed by the national aid plan, which is now becoming so popular, is that it is general instead of sectional or local. It is as broad as the whole country. It can bring into harmonious, united action the friends of good roads in every State, and it is the only plan yet proposed that can do this.

The friends of national aid will make a mistake if they undertake to work out details in advance. They will disagree among themselves and give objections every advantage. They should go to work for the general principle and leave details to be worked out later. This was the plan of action adopted by Gladstone. When his opponents asked for details of any great reform which he advocated, Gladstone would answer: "There will be time enough to work out the details when we get the power." The advocates of national aid will do well to emulate the example of this great English statesman. They should organize everywhere and fight for the principle, leaving details to be worked out in due time.

### Farm Drainage.

John Wiley & Sons of New York have just issued a neat reprint of "Practical Farm Drainage" by C. G. Elliott, Drainage Engineer. It answers the questions: "Why, When, and How to Tile Drain"—giving, in a concise and plain manner, that which the farmer should know if he contemplates draining his farm. The chapter headings are: "Soil and the relation of drainage to them;" "Action of drains upon the soil;" "Leveling and locating drains;" "Depth and sizes of drains;" "Practical details of the work;" "Ditching machines;" "Cost and profit;" "Road drainage." The book has 100 pages and 25 figures. The price in cloth is \$1, and it can be ordered through the PACIFIC RURAL PRESS.

### Fruit and Alfalfa.

Modesto and Turlock Irrigation districts, located in Stanislaus county, in central California, have completed their extensive systems. This puts 180,000 acres under irrigation, and anything that can be grown in California can be grown there. Anyone desiring information about that locality can get the same by applying to A. B. Shoemaker, Modesto, Cal.

THE latest catalogue of the Belle City Manufacturing Co., Racine Junction, Wisconsin, is of interest to every one who uses farm machinery, threshers, feed and ensilage cutters, sweep and tread powers, truck and barrel carts, saw frames, root cutters, etc. It is elaborately illustrated and will be sent to any address.

### Bone Spavin Two Years' Standing Cured.

Moose Jaw, Assa, Canada.  
Dr. B. J. Kendall Co., Enosburg Falls, Vt.  
Gentlemen: I have used your Kendall's Spavin Cure in cases of Spavin of two years' standing. I find it satisfactory both for man and beast. Please send me your "Treatise on the Horse and His Diseases."  
Yours truly,  
OSWALD LOWE.

## W. & P. ROOF PAINTS.

### PLASTIC SLATE.

An unequalled coating for Roofs, Tanks, Flumes. Fire-proof. Hardens like slate. Cheap; durable.

## PACIFIC REFINING & ROOFING CO.

113 New Montgomery St., SAN FRANCISCO.

Ready Roofing.

Correspondence solicited.



## Eames Tricycle Co.,

Patentees and Manufacturers of Improved designs of Tricycles, Tricycle Chairs for Invalids, and various models of rolling Chairs.

Chairs sold, rented and exchanged.

Illustrated Catalogue mailed on application.

EAMES TRICYCLE CO.,  
2020 Market St. San Francisco.  
534 S. Broadway, Los Angeles.

## FRANCIS SMITH & CO.,

—MANUFACTURERS OF—

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

83 FREMONT STREET, - - - - SAN FRANCISCO, CAL.

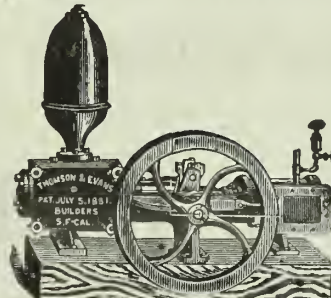
Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

## C. H. EVANS & CO.,

### Machine

Thomson & Evans  
Steam Pumps.

DEEP WELL  
and  
POWER PUMPS.



### Works.

MARINE ENGINES.

SHIP and STEAMBOAT WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St.  
SAN FRANCISCO.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

#### Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

#### Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—

## GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California.  
California Climate as Related to Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation.  
Garden Drainage in California.  
Cultivation.  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Radishes.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying.  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



# Bean Threshers.

We are now ready to supply a Bean Thresher of undoubted merit. Large separating surface. No beans or peas passing through with the vines. Furnished in different sizes to suit your needs.

If interested, send for catalog and full particulars. Address

## BAKER & HAMILTON,

Sacramento, San Francisco, Los Angeles, Cal.



### They Prove Satisfactory.

In actual work in the fruit orchards of Santa Clara county the above orchard trucks have proven satisfactory in every respect. Each season we have added such improvements as have come up, and believe now we have the ideal orchard or farm wagon.

This season we have adopted the SARVAN wheel exclusively. These trucks are made in four sizes—1, 1½, 2½ and 3-ton capacity.

If interested, write for prices and our new catalogue which gives fuller particulars. It also contains a list of all other machines we make, of over eighty different kinds.

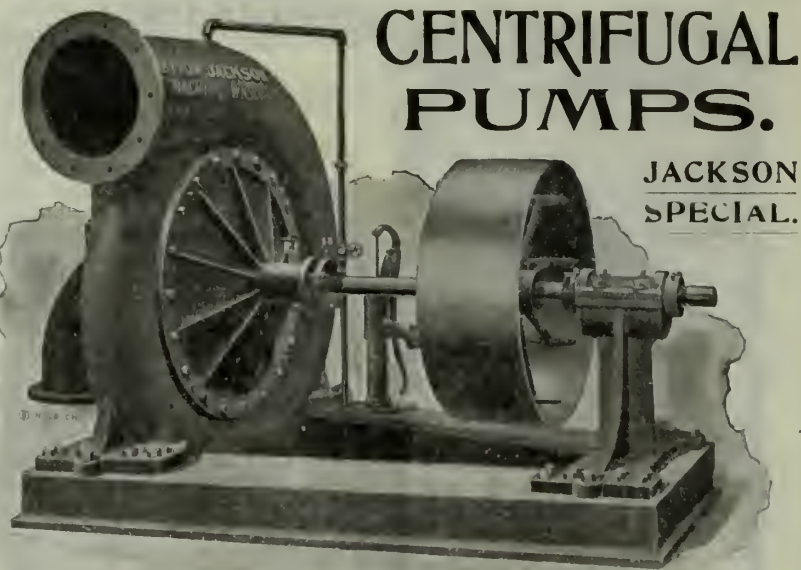
We make a specialty of planning, building and equipping complete Drying Plants and Warehouses—distance no hindrance.

We also invent machines for special purposes

**ANDERSON-BARNGROVER MFG. CO.,**

128 West Santa Clara Street,

SAN JOSE, CALIFORNIA.



## CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. THE BEST IS ALWAYS THE CHEAPEST.

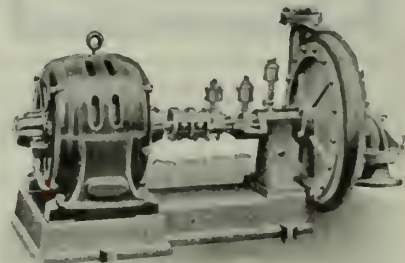
BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO.  
Write for Catalogue E.

## Successful Farmers Irrigate.

THE MOST SUCCESSFUL FARMERS  
CLAIM THEY GET THE BEST  
RESULTS WITH KROGH PUMPS.

CHEAP PUMPS (LIKE  
CHEAP LAND) ARE  
DEAREST in the END.

BUY A KROGH PUMP  
AND YOU GET THE  
BEST THAT MONEY  
CAN BUY.



WRITE US AT ONCE...

WE WILL GIVE YOU VALUABLE ADVICE CONCERNING A PLANT FOR YOUR WORK.

**KROGH M'F'G CO.,**  
519 MARKET ST., SAN FRANCISCO.



JOHN A. YEATMAN & CO.

13 FIRST STREET,

SAN FRANCISCO,  
CALIFORNIA.

IRRIGATORS ATTENTION!

WE MANUFACTURE

### Eclipse Centrifugal Pumps

AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.

Send for Folder.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING

or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,

713 Market Street, San Francisco.

# PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. **DEWEY, STRONG & CO.** (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.

**GREENBANK** BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 3.

SAN FRANCISCO, SATURDAY, JULY 18, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Good Trees in Hard Places.

It is, of course, an ungrateful tree which will not make a great growth in rich and well-moistened soil in California, and there is no lack of instances of trees which have rapidly reached splendid dimensions in places which well suited their requirements. It is of rather wider interest to know what trees will do fairly under conditions not so favorable for growth. An intimation in this line may be found in the pictures on this page and in the descriptive notes given about them by Mr. C. H. Shinn in a recent bulletin by the University of California, to which we recently referred. One point is the endurance of alkali by some of the eucalypts. The species *viminalis* is a good one for trying places, for it endures the low land winter temperatures of California interior valleys and the alkali which may outcrop in such situations. The picture shows a *viminalis* growing at the Tulare sub-station in quite strong alkali. Mr. Shinn says that in the Tulare region the best species to plant are undoubtedly *Eucalyptus rostrata*, *viminalis*, *corynocalyx* and *amygdalina*, all strong growers and valuable trees, with *globulus*, the most rapid grower, worth using only where it does not suffer from frosts. There is at Tulare City a large grove of eucalypts made by the Southern Pacific. Here some fifteen species are represented, and nearly all have done well, the more tender species being sheltered by the taller and hardier trees. *E. eugenoides*, *E. leucoxylon*, *E. robusta* and *E. obliqua* are in this collection.

But there seem to be trying conditions where the acacias give better satisfaction than the eucalypts. Mr.

Shinn assures us that all observations at the Santa Monica substation confirm the view that on the light, gravelly wash of the mesa the large tanbark acacias stand the drought somewhat better than do the eucalypts. Seedling trees also frequently spring up in the grove. With good cultivation, a grove of *Acacia decurrens* or *mollissima* can be established in such soil without any irrigation and with an annual rainfall of only 10 inches.

The largest specimen of *A. decurrens*, now twelve years old, girths 3 feet 9 inches, measured breast high. This surpasses both *A. mollissima* (largest tree 2 feet 10 inches) and *A. dealbata* (largest tree 2 feet 4 inches). *A. cyanophylla*, a low, shrub-like, much-branched tree, quite unlike the two preceding species, which rise to 40 and 50 feet, has in the case of the largest specimen a trunk girthing 3 feet 1 inch. All these stand on soil similar to that upon which the older eucalypts have suffered more in times of drought.

*Acacia melanoxylon*, whose beautiful rosewood-like timber only needs to be better known to be demanded among cabinet makers, has now fully recovered from its severe suffering in the years of drought, when one-half of the large trees of this species ceased growth and some died. This recovery when the annual rainfall rose from about 6 inches to nearly 12 inches is interesting, but the profitable growth of this riverine species for timber is evidently limited to regions of more rainfall and better soil. Nevertheless, the largest standing tree of *A. melanoxylon*, aged twelve years, girths 3 feet 8 inches.

The rapidity of growth of *A. melanoxylon* is hardly surpassed by any other

species, and it reproduces itself freely from root-cuttings or suckers as well as from seeds. One large tree removed in 1899, because it died in the ground, threw up a multitude of suckers scattered over a large area. Nine

of these have been left at spaces of from 10 to 20 feet apart; they average a height of 18 feet and a girth of 15 inches. Fed, of course, by the old roots, this growth far surpasses that from seeds. In suitable locations, however, a wood-lot of *A. melanoxylon* could be trusted to reproduce itself from the roots. The fuel value of the wood is high.

Observations and reports upon the growth of acacias are always interesting, and we hope our readers will supply us with them for publication. It should be a matter of congratulation that this genus, which is almost wholly semi-tropical in its species, should make such strong demonstration of its satisfaction with California. To make more plain the availability of acacias for California, the University planted out a new collection at Santa Monica in 1901, which, with previous plantings and a few set out in the spring of 1902, makes the total representation of acacias nearly thirty species. One of the most striking of these is *A. Baileyana*, a very ornamental tree. *A. verticillata* and *A. linifolia*, both species of small growth, have attracted much attention. The trees of ardent value, however, will be the acacias of the wattle group and other free-growing species, some of which have been already mentioned above.



*Eucalyptus Viminalis* on Alkali Soil at the Tulare Sub-Station.



Grove of *Acacia Pycnantha* and *Decurrens* at the Santa Monica Sub-station of the University of California.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON. Horticultural Editor

San Francisco, July 18, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Eucalyptus Viminalis on Alkali Soil at the Tulare Sub-station; Grove of Acacia Pycnantha and Decurrens at the Santa Monica Sub-station of the University of California, 33.  
EDITORIAL.—Good Trees in Hard Places, 33. The Week, 34.  
QUERIES AND REPLIES.—Tokay on Rupestris; Potentilla and Giant Spurry; Sublimed or Ground Sulphur; Failure of Vine Roots; Late Treatment for Red Spider; Pear Slug, 35.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending July 13, 1903; Temperature and Rainfall, 35.  
THE VINEYARD.—California Wine Makers' Methods, 36.  
THE APIARY.—Bee Stings and Their Rational Treatment, 37.  
THE DAIRY.—What Holsteins Are Doing and Can Do in the West; Experiments on Alfalfa Bloat, 37.  
HORTICULTURE.—The Planting and Culture of an Apple Orchard; The Perfumery Rose, 38.  
AGRICULTURAL REVIEW.—39  
THE HOME CIRCLE.—Man's Best Friend; Wanted, a Chicken; Cleaning Day in Holland; Humorous; Elizabeth; Etiquette in Mexico; How to Boil Water, 40. The Canning of Summer Fruits; Hints to Housekeepers; Domestic Hints; Why Nations Wear Colors, 41.  
THE MARKETS.—Produce Market; Fruit Markets, 42.  
THE VETERINARIAN.—Answers to Inquiries—Treatment for Udder; For a Suppurating Wound, 43.  
THE RANGE.—California the Outlet for Arizona Cattle, 44.  
FRUIT MARKETING.—European Crops and Prices; An Unofficial Parcels Post for Farmers, 45.  
THE POULTRY YARD.—The Poultry Industry, 46.  
FORESTRY.—A Forest Policy for California, 47.  
MISCELLANEOUS.—An Essay on Ants, 43. Treating Ants in Their Nests; Uses of Solar Heat, 44. New Patents, 46. Resolutions of Respect, 47.

## The Week.

Harvesting proceeds favorably and the value produced in California's agricultural specialties this year will be on the whole satisfactory. Injuries by heat and wind seem to be less than anticipated, and so far the labor supply is generally adequate. Of course the height of the harvest, with the mid-season fruits, and other work which coincides with their maturity, is but now approaching, but there seems reason to expect that everything will be handled well. The benefits of the earnest work which has been done to bring in new workers are clearly appearing, and the character of the men indicates that they will be a permanent acquisition. Activity prevails in all districts which have put forth wise efforts to make themselves known, and one sees the advance of improvement and development in nearly all parts of the State. Railroad building is particularly active, and the prospect is that the northern end of the State may advance greatly in availability.

Spot wheat is firm and unchanged, while futures, though fluctuating considerably during the week, are a little stronger than at our last report. Grain bag prices are helping grain sellers, for bags have sold down to 4½¢—a very low figure. Barley has the same prices as last week and is firm. It has been quiet, but is now active again, and country buying has proceeded all the time. Oats are in good shape. The Government has taken 2000 tons of new red oats at \$1.34 to \$1.40—the grain to be double-sacked. It is expected that more will be wanted. Corn is strong and higher, with small visible supply. Rye is unsettled; buyers want it low, but holders are firm. Beans are unchanged and quiet. Bran is temporarily firmer, but the mills are starting again and greater supplies are expected. Hay is freely arriving by water, so that supplies are enlarged, though cars are scant. The market rather favors the buyer on all except strictly choice. Beef and mutton are steady and unchanged, while hogs are higher; medium-sized in greatest demand and small hogs most abundant. Butter is being bounced around considerably and the bulls are ahead, for prices have slightly improved. A strong bear influence, however, crops out frequently, and Eastern butter is plentiful. Cheese is higher and firm. Eggs are higher and some are coming out of cold storage, with Eastern eggs abundant also. Poultry has sold fairly during the week until to-day, when heavy arrivals both of California and Eastern have a depressing

effect on all except choice, fat young stock. Potatoes are 20% lower, as shipping has stopped. Onions are unchanged and easy. Tree fruits of good quality have sold fairly. A few choice oranges are doing better and the inside price for oranges is also raised. Lemons are plenty and in good demand. Dried apricots are moving eastward to some extent, though holders are insisting on high rates. Some prunes are selling for October delivery at 2½@3c. Almond growers invite bids for 170 tons assorted varieties—bids to be received July 18. Walnuts are strong. Honey is showing less product than prophesied and the crop is late. Hops are unsettled and reports of reduced product make holders firm. Nothing is doing in wool: fall lamb wool is arriving from the south.

We desire to call the particular attention of our readers to the opening of the California Polytechnic School in San Luis Obispo. We have in previous issues described the aims and scope of the institution and announced that detailed information could be had by addressing Director Leroy Anderson at San Luis Obispo. We desire now to present the matter in this way: For years there have been a group of people who have declared the demand for a school of practical agriculture, which would receive pupils with less requirements than are necessary for entrance to the regular course at the University. They also have specified that such a school should be situated in the country, and that it should not be overshadowed by classical and advanced literary environments. They also have specified that pupils should be given more practical than theoretical instruction, and that they should be forced to retain their respect for labor by being required to perform it as a part of their regular school work. It has also been specified that everything possible should be done to enable a pupil to attend the school at a minimum outlay on his part. Now the State of California has taken all these people at their word and has established just such an institution and provided liberally for its beginning. The probability is that liberal provision will be made in the future for its full equipment, so that it shall be enabled to train the youth in all rural arts and handicrafts in the most straightforward and practical way. Agricultural production and manufacture will be the basis—all branches of industry capable of pursuit in rural communities will be grouped thereupon. This being the case, it is fitting that the people who have been for years pressing this matter upon public attention should now assume a burden of responsibility. The popular sentiment engendered by their agitation has led to the establishment of the school; it befits them now to see to it that the school has pupils. Unless pupils appear in good numbers, it will be fairly chargeable upon these people that they have been agitating all these years upon a theory of their own that there was a demand and not upon facts. If there is any one thing which these people have roundly denounced it is the matter of theory in agricultural education. Surely they should not let it appear that of all theories theirs was the wildest, and what less than this can be said of it, if this school is allowed to open next September with a handful of pupils! As yet, not a single application for entrance has come from communities in the State where the loudest agitation for practical instruction in agriculture in a secondary school has been made for years. We have kept in touch with this matter for a quarter of a century and know just where these centers of agitation are and who the people are who have indulged in it. Thus far not one of their sons or daughters, sisters, cousins or aunts have applied for entrance to this school, nor has a single one of other young people of their localities for whose benefit they believed they were striving, filed an application for admission. This is a situation; it is not a theory. We desire to present the matter to these people in the most direct and practical way and so choose this form of personal appeal. We fully believe in the wisdom of the undertaking on the part of the State. We believe the school will be unique in its direct ministration to the needs of those desiring training in the most successful arts of California agriculture. We believe it will draw pupils from all parts of the earth ere long. Young people from the cities and larger towns will fill it unless the rural people, for whose benefit it has been invoked, take advantage of the opportunity which it provides. Now let us see if the earnest ad-

vocates of practical education in agriculture will pull off their coats and go to work to get rural pupils for this school, or whether they have become so weary in theoretical reports and resolutions and exhortations about the need of the thing, that they have no strength left for action now that the sun of realization has arisen.

The relations between the State and the State Agricultural Society are clearing up, for the latter has voted to deed Agricultural park and all its appurtenances to the State and received the appropriation by the Legislature to improve its financial condition. The new board of directors are doing their utmost to make this year's fair deserving of popular support, and they ought to be helped by the people, for their task is an arduous one discharged from a sense of public duty. The Sacramento Union very properly asked the other day if the State Fair could not be more closely allied with the agricultural-educational interests and institutions of the State and thus be made worth the money which the State contributed to its maintenance. It certainly can be and ought to be. But to do this, the plan of drawing crowds by clap trap must be abandoned and the tendency toward vaudeville effects simply to secure gate money from evening throngs of city people must be largely checked. The gambling attractions at the park must also be sacrificed. The fair must be made an exposition of industry; exhibits must be really worthy and judging must be expert. If such character were striven for and maintained, the increased educational value of the fair would be recognized and the character of the attendance changed. But it must not, of course, be inferred that this would improve the financial condition of the institution. It is not by any means sure that lifting the quality of the fair would increase its receipts nor reduce its expenditures. If we are not mistaken, States which maintain high class agricultural fairs expend considerable amounts of money upon them because they are worth it as agencies for industrial education. If lifting the character of the fair is undertaken with this expectation, well and good; it is one of the best things that the State could do for the development of its industries. But if the directors are called upon to meet their expenditures from gate money then probably the nearer they approach to an unholy show the nearer they will come to making it pay. We seriously doubt if both things can be done; there is serious enmity between them. If, however, the better thing, from a moral and educational point of view, were decided upon, it would not be hard to reach it. What the live stock committee of the present board of directors are doing for this year's fair must be done for all the departments of the fair. They have offered premiums liberal and varied enough to attract breeders of the best animals of all kinds. They have adopted suitable rules and have arranged for expert judging, etc. Every one who goes to the fair this year, if breeders do their duty in entries, will get lessons in stock breeding which he will never forget and which will be of great value to him and to the State through his future efforts. The same thing could be done in all departments of the fair, but it could not be easily done nor could it be done cheaply. In breeding there is the breeder's interest in making the public understand his effort and achievement. The breeder can afford to make some expenditure to secure this. It is similar with the inventors and manufacturers of agricultural implements and machinery. But in much that will go to equip the fair as an educational agency this motive cannot prevail. Plants, fruits, field products, etc., each shown in its best condition and true to its name, will not return to the exhibitor on the average anything like the cost of placing it on exhibition, nor does the exhibitor generally have a chance to recoup any part of his outlay, because generally he has no business interest which can be promoted. For this reason such displays must be promoted by public expenditure. County collections in competition for prizes or to promote local settlement have always a certain educational value, it is true, but they have neither the systematic arrangement, the sharp classification, nor the correct naming, all of which are essential to a high classed educational display. We have offered no prescription. We are glad to recognize the fact that in some respects the



arrangements for this year's fair are better than those previously made and we wish it the fullest possible success.

Fruit is moving eastward in good shape. Up to July 13th 1377 carloads have cleared, against 1254 to the same date last year. Mostly pears and plums are now moving. Alden Anderson, manager of the California Fruit Distributors, states that if prices can be kept up to the Union this week, there will be no slump on plums, as there had been for several seasons when shipments were at high-water mark. The matter of distribution has been gone into very carefully, and, as a consequence, the fruit is not piling up at any one point. The new markets opened up have done much toward relieving pressure at any point. Eastern shortages are becoming more apparent and a good full demand for our fall fruits is to be expected.

It is interesting that the first export fruit train for the season left Sacramento on the evening of July 11, consisting of eight full cars of mixed fruits, the venture being undertaken by a single firm, the Earl Fruit Co., instead of by a combination of firms as heretofore. This train is now crossing the continent with a huge banner strung on the side of the cars telling of the fruit shipment and reading: "From Sacramento to London Direct." On arrival in New York the cars will be lightered to the side of a fast steamship and the fruit transferred directly into the refrigerating plant of the steamer, where the fruit will be kept at 36°. These shipments will continue from time to time during the next two months.

## QUERIES AND REPLIES.

### Tokay on Rupestris.

TO THE EDITOR:—Did you ever hear that Tokays grafted on Rupestris St. George never bear and that they are generally very shy in bearing except when grafted on Riparia? I made a visit to Loomis and they told me that, as a rule, all Tokays don't bear when grafted on Rupestris, whereas on Riparia they bear in two years and make an immense growth. What is your information on the subject?—PLANTER, Folsom.

It seems to be widely observed that Tokay on Rupestris St. George, though taking well and growing strongly, is shy in bearing. This might be expected, for rank growth is usually at enmity with fruiting. According to experience with other plants, when the rank growth decreases more fruit might be expected, but this is, of course, a theoretical position, and needs demonstration by actual trial. It is possible that by forcing the vine to carry more canes, say by pruning to four eyes instead of two, you might induce freer fruiting. Possibly the use of the Riparia instead of the Rupestris would be better, but that depends, of course, whether the Riparia does well on your soil and with your moisture conditions. If it does not, you will be no better off by having your Tokays on Riparia, although they may bear better with other growers with soil suiting the Riparia. It may ultimately prove that a compromise may be wise in this case, such as growing Tokay on Rupestris x Riparia stock. There is a vast amount still to be demonstrated by experiment along these lines and one cannot expect perfectly definite advice in the present state of knowledge.

### Potentilla and Giant Spurry.

TO THE EDITOR:—I send you by mail to-day a plant supposed to be esperset, also seed from the plant and seed purchased as esperset. The seeds do not resemble each other, so somebody is wrong. About fifteen years ago a small patch was planted to esperset, but it was supposed the seed failed to grow. Plants of the kind I send are now found growing over quite an area in the vicinity and are quite valuable for forage. They even grow under manzanita bushes, where grass never starts, and the entire growth is on land too rocky to cultivate, so I am anxious to know exactly what it is. I would also like to know if Giant spurry is good for feed.—H. OVERACKER, JR., Napa county.

The plant you send is recognized by the botanists as *Potentilla elata*. This explains why its seed does not resemble the seed which you purchased for esperset. The esperset sown fifteen years ago failed, as it has done in all cases known to us in California, and this wild plant came in. What you say about its value and growth habit is important, and, as it seeds readily, you can help it extend its area on waste land

—though you can not buy the seed, but must grow it yourself. The fact that it spreads easily and that stock like it should convince you that you have a good thing for the kind of land described.

Giant spurry is proving of some account in Sonoma county, where it seeds itself, starts early and makes a quick winter growth. The orchardists plow it in for green manure; although it is not a legume, it has of course value for this purpose. It ought, also, to be useful for winter feed.

### Failure of Vine Roots.

TO THE EDITOR:—I send you a grape vine out of a group which are dying. It ought not to be due to phylloxera, for the root is Lenoir and should be resistant. Some of the vines are making new roots near the surface. I cannot find any phylloxera and send the whole vine to you to see if you can determine the cause of the trouble.—GROWER, Napa county.

We doubt if satisfactory conclusion as to the behavior of these vines can be reached without examination in the field. What you say about the rotting of the roots and the disposition of the vine to send out new roots nearer to the surface would indicate that there is an adverse soil condition; that the subsoil was too wet; that possibly in this spot there was by some conformation of the subsoil, retention of water too late in the growing season, which would be injurious to the roots, although the vine during its dormant period can stand saturation and even submergence for a considerable period.

Examinations for occurrence of phylloxera should, of course, include the smaller and newer rootlets, and if there are many present they should be found now upon those upper roots which you mention. It is idle to hunt for them on old rotten roots. We would advise you to write to Professor E. H. Twight, Agricultural Experiment Station, Berkeley. He is the University viticultural expert and gives what time he can to field investigations, and if you should invite him to see your vines he might arrange for it whenever he had business in your section.

### Sublimed or Ground Sulphur.

TO THE EDITOR:—I enclose samples of sulphur, both of which I bought for sublimed. No. 1 costs about 30 cents a bag more than No. 2, but No. 1 bulks about one-fourth more to the same weight than No. 2. Do you think them both sublimed, and which is best for dusting on grapes?—READER, Sonoma county.

Your sulphur sample No. 1 is a good quality of sublimed sulphur; sample No. 2 is a finely ground sulphur, also very good quality. Both these are suitable for horticultural uses—for grape mildew, red spider, etc. It is difficult to state which is the better; sample No. 1 will go a little further, because of its finer division and lightness, but whether it would go just as much further at its increased cost, or little more or little less, is a pretty close point. We believe you will get satisfactory results with either.

### Late Treatment for Red Spider.

TO THE EDITOR:—As long as there are leaves left on the almond tree is it ever too late to kill red spiders with the sulphur treatment of which you recently wrote? Will it kill the spiders and lessen the number next year to sulphur the trees after the leaves have disappeared this year?—L. C. T., San Francisco.

The sulphur treatment will do good as long as there are living spiders to reach with the fumes. Later in the season when the eggs are laid and the living forms of 1903 passed away, the sulphur will, so far as we now know, be useless. There are living spiders on the bark after the leaves have fallen, but how late they may be found we do not know. It probably depends to a considerable extent upon the local climate: especially upon the rainfall, for water is destructive to them.

### Pear Slug.

TO THE EDITOR:—I send you in another package some pear leaves. Tell me what kind of a bug it is that is eating them and how to get rid of it.—SUBSCRIBER, Mendocino.

The insect is the pear slug—the larva of a clear-winged insect known as a "saw fly." The treatment is to spray with Paris green, just as you do for the codlin moth; in fact, when trees are properly treated for this insect, the leaves are protected from all leaf-eating pests. On pears you can use one pound of Paris green to 150 gallons of water, keeping the wash constantly stirred while spraying.

## WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 13, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

### SACRAMENTO VALLEY.

The temperature during the week was slightly below normal, but conditions were much more favorable for crops than during the preceding week. Fires in Yolo county destroyed several hundred acres of wheat. It is reported that the damage to grain by the dry northerly winds of the preceding week was greatly overestimated and that the loss will be comparatively light. Late sown wheat is ripening slowly, and a small crop will be gathered in some sections. Harvesting and threshing continue. Early wheat is yielding a better crop than expected in some places and barley is a good crop in nearly all sections. Hops are doing fairly well, but a light yield is probable. Dried apricots are being shipped from Butte county. The yield of apricots in some sections is reported much larger than estimated. Peaches are ripening slowly and prunes will be late on account of cool weather. Grapes are in excellent condition and will probably yield heavily.

### COAST AND BAY SECTIONS.

The weather during the week was warm and dry in the interior, but cool and foggy along the coast. Grain harvest progressed rapidly and is nearly completed in some sections. Barley is a good crop in most places. Early wheat filled out well, but was considerably damaged by the high winds of the preceding week, and the yield will be light in some sections. There will probably be a light crop of late wheat in some of the northern districts. The hop fields in Sonoma county are said to be infested with hop lice, a pest which quickly destroys vines and fruit, and it is feared the crop will be seriously injured. Sugar beets are doing well, but the acreage is reported small. Corn and beets are in good condition in most places. All reports agree as to the excellent condition and prospective large yield of grapes. Some damage is being done to apples and pears in San Benito county by codlin moth. Apricots are ripening; the quality is better than last season's and the yield is fair in most places. Early Crawford peaches are backward at Peachland. Berries of all kinds are ripe and plentiful. The damage to fruit by the hot winds of the preceding week was less than estimated.

### SAN JOAQUIN VALLEY.

Clear, warm days and cool nights prevailed during the week, with high northerly winds in some sections. Standing grain was considerably injured by the wind. Harvesting and threshing continue. Wheat is reported of excellent quality and the yield is fair, though not quite up to average. The third crop of alfalfa is being cut in Stanislaus county; a large part of the crop in Tulare county is being left for seed. The cool nights were beneficial to maturing fruits. All deciduous fruits are in excellent condition and will yield heavily in nearly all sections. Eastern shipments are increasing rapidly and large quantities are being dried and canned. Apricots are of superior quality. Grapes are making satisfactory growth and prospects for heavy crops were never better.

### SOUTHERN CALIFORNIA.

Nearly normal weather conditions prevailed during the week. The cool, foggy weather along the coast was beneficial to beets and beans, and the warm, clear days in the interior hastened the ripening of deciduous fruits and benefited oranges. Grain harvesting and threshing are progressing in all sections, and the yield of wheat, oats and barley is reported excellent. Prospects are good for a large crop of beans in the Santa Maria district. Apricots are ripening along the coast, but picking has commenced in some places; the fruit is of good quality, but the yield will be light. Peaches are ripening in the interior. Apples will yield a good crop. Grapes are in excellent condition and heavy crops are expected. Walnuts at Anaheim are not doing well and the yield will probably be light. Citrus fruits are thrifty.

LOS ANGELES SUMMARY.—Seasonable weather beneficial to crops. Threshing is in progress. Canneries are in full operation. The demand for irrigating water is increasing. Royal apricots are about harvested.

EUREKA SUMMARY.—Hay harvest is progressing rapidly; yield light. Vegetables on bottom lands are doing well. The condition of fruit is generally good; apples are very promising and cherries the largest crop known.

### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 15, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.00	T	.23	.04	80	46
Red Bluff.....	.00	.00	.00	T	94	58
Sacramento.....	.00	.00	.00	T	90	50
San Francisco.....	.00	.00	.00	T	82	48
Fresno.....	.00	.01	.00	T	100	54
Independence.....	.00	.00	.00	.01	92	62
San Luis Obispo.....	.00	.00	.00	.00	74	42
Los Angeles.....	.00	.00	.00	T	88	54
San Diego.....	.00	.00	.01	.01	78	60
Yuma.....	.00	.00	.00	.04	103	76



## THE VINEYARD.

## California Wine Makers' Methods.

By HENRY LACHMAN of San Francisco, Cal., in DR. H. W. WILEY'S report of the Paris Exposition for the United States Department of Agriculture.

**FERMENTATION.**—Grapes are handled by raising them on an elevator to a position above the fermenting tanks, where they are dumped into a crusher, which is oftentimes located above the fermenting tanks. They are then crushed between corrugated rollers, which are set so as not to crush the seeds, only breaking the skins. After this they pass into the stemmer and the stems are removed. The seeds, skins, pulp and juice are then run along chutes to the fermenting tanks. Should there be any varieties where the stems have become dry, the stemmer is taken off and stems and all allowed to pass into the fermenting tanks, so that the tannin can be drawn from the stems. As a rule grapes are fermented without the stems in California.

Immediately after the fermenting tanks are filled about two-thirds full the must is tested for sugar, which should not go under 22°, the thermometer generally registering about 70°. Should the grapes after crushing remain over a cold night, it sometimes takes two days before fermentation starts. When the temperature of the must is not over 80° there is no trouble in drying it out. At 90° fermentation always stops. The temperature is taken three times a day, and the sugar calculated from the density of the must.

The first day the must loses about 6° of sugar, 6° the second day, and the same amount on the third. Four degrees are lost on the fourth day, and from the fifth to the seventh day the sugar practically disappears. As soon as the sugar is gone the juice is drawn off the pomace.

**GOOD AND BAD GRAPES.**—Uniformly ripened bunches generally go through fermentation without any trouble, coming out perfectly dry, while those with green or half-dried grapes have a spasmodic fermentation, registering a drop in sugar one day and no decrease another day, finishing generally with the gas leaving the must during the time the temperature is over 90°. In this condition there is often from 1° to 4° of sugar left. Such wine goes rapidly into lactic acid and is fit only for distilling, and will spoil any sound material that is blended with it. This mistake is too often made. When a wine maker can see that it is to his advantage to hold his losses to a minimum, and not try to cover his mistakes, he will be the gainer. Merchants are distributors, and can sell only what they have to offer or what is on the market. Every gallon of poor wine loses a consumer, and it takes time to remove prejudice. There is no manufacturing business that can give satisfaction where inferior material is worked in. Assorting is carried on with all California fruits to-day, prunes being graded according to size, apples on their size and appearance, pears and peaches the same, and oranges for their color, size and quality. When the wine maker realizes that the control of fermentation is the vital point in wine making, he will have no trouble in producing an article that will take care of itself, figuratively speaking, and it will give no trouble to the dealer in handling and preparing it for market.

California grapes ripen with all the essential elements for producing fine grades of wine. The percentage of alcohol, extract, tannin, glycerol and acid in the wines proves them equal to the best. From an analytical point they lack nothing, and are within the standards adopted by France and Germany and by the last Congress of wine growers in Paris in 1900.

**CARE OF WINES.**—The care of wines is a constant study and requires incessant thought and observation. A lazy or indifferent man should never undertake their care. Like a child, they must be nursed and watched. They do not always act alike, and for this reason they should be examined not less than once a week. There are no standard rules to follow. Wines often get tired from overwork—that is, handling them too frequently. They also get sick from being overheated. They are affected by changes in temperature. The temperature at which white wines are stored should not go over 60° or under 50°; red wines should never go under 60° or over 70°. Wines need cleaning, and casks should be racked and given a clean suit of clothes by being drawn into freshly cleaned packages. By "clean" we mean scrupulously clean. In cleaning a cask that has a manhole the cellarman should get inside with hose and scrubbing brush and thoroughly cleanse it with soda and hot water if it has been empty for any length of time, and then rinse with cold water until the water runs out clean and sweet. The cask should then become thoroughly dry before filling with wine. All tools used in this operation should also be thoroughly clean.

**PACKAGES.**—It is always best to use the same packages for the same character of wine. Superior Burgundy types should always be stored in cooperage that has previously contained wine of the same kind. Good wines stored in cooperage that has pre-

viously contained inferior grades are bound to deteriorate, while poor goods stored in packages that have held good wines might spoil them for further use for finer grades. Red wines should never be stored in cooperage that has contained white wines, and vice versa. A new wine, especially a sweet wine, port or sherry type, is much improved by being stored in a package that has previously contained old similar wine. To prevent a package from souring, it should be sulphured not less than once a month, using about 3-inch sulphur wicks for the purpose.

**THE POMACE.**—The size of the fermenting tanks depends upon the size of the winery. There is a discussion as to whether the large fermenting tanks give more satisfactory results than the small ones. The writer's experience indicates that no fermenting tank should have over 5-foot staves, 12 feet in diameter, with a capacity of about 5000 gallons.

In order to keep the pomace cool, punching rods are used to submerge it beneath the juice, the pomace always rising to the top of the tank. Frequently juice is pumped over the pomace once a day to keep the mass constantly fermenting and at the same time extract the tannin and color from the skins and seeds. The main object is to keep the mass fermenting until the wine has become thoroughly dry. As soon as the carbonic acid gas has left the wine it is drawn off into closed tanks or casks for storing. These tanks, previous to filling, should be thoroughly cleaned and sulphured. The pomace should then be handled at once, as it sours immediately when it comes in contact with the air, beginning at the top and working downward. Should the top of the pomace pile cake, it should be skimmed at once and thrown away. If the pomace is to be pressed it should be done within twenty-four hours after the juice has left it.

To produce a piquette, or wash for brandy making, it should be strong enough to pay for distilling—that is, from 5% to 7% alcohol. This is generally accomplished by passing water into a tank filled with pomace, through a pipe feeding from the bottom, the overflow from this tank passing off the top and entering a second tank filled with pomace at the bottom. The overflow from the second tank is then conducted into a third tank filled with pomace, in the same manner. The wash from the first tank generally goes between 2% and 3% alcohol; from the second, 3% to 4½%, and from the last about 5% to 7%. After the pomace has been washed twice it is thrown out and sold to cream of tartar works for the manufacture of cream of tartar, the price paid being from 75 cents to \$1.25 per ton.

**PROMOTING FERMENTATION.**—Should the fermentation cease—generally caused, as stated before, by too high a temperature and an excess of sugar in the grape—fresh must from grapes that are not so sweet should be pumped over the "stuck" wine. This should be done within six hours after the tank has ceased working, and fresh juice should be worked over it until fermentation is again started.

White grapes, as a rule, are crushed without stemming. Six to ten hours is sufficient time to allow the must to settle from the pomace when the juice is drawn off. The pomace is then put through the press to produce a "press" wine, after which it goes through the same process of washing as the red pomace.

When first drawn off the fresh juice is pumped into small oak casks about two-thirds full and allowed to ferment. These casks are closed. The fermentation is watched closely each day. During the first five or six days of fermentation a heavy scum forms on top. This is drawn off and fresh juice added to take its place. After the sixth day, the violent fermentation having ceased, the casks are filled close to the bung, and a fermenting bung (which is generally a piece of block tin pipe in the form of a goose neck) is attached to the cask, through which the gas passes into a bottle of water. The Italians often use a bag of sand, which they place over the bung hole. The object is to allow the gas to escape, as otherwise the high pressure would burst the casks.

**TEMPERATURE.**—The control of temperature in both the fermenting and storage cellars is most essential. In the fermenting room between 70° and 80° is quite safe. In the cellar new wines can safely be stored the first year at from 60° to 70° temperature. After the first year 60° F. is the standard temperature for storing wines. The ventilation in the cellar should also be perfect, and there should be no drafts. It has often been noticed that wines stored in cooperage beside a window or door are more backward than those protected and away from openings. Light in the cellar is also objectionable, as it has a tendency to change the color of wine.

**RACKING.**—After the wine becomes dry it begins to precipitate or clear itself. This depends greatly on the place where it is stored, and also on the condition of the weather. In very cold and clear weather wine precipitates much faster. Before the lees begin to rise the wine is drawn off the sediment into thoroughly cleaned cooperage. The first racking takes place from six to ten weeks after the wine is made, depending upon the condition of the wine. The next racking occurs from February to April. The wines are again racked before the hot weather begins, which causes the sediment to rise. All new wines

should be racked about four times a year, the last racking taking place before the vintage, in August or September. Old wines should always be removed previous to the making of the new, and if possible stored in a separate building. If this is not done, it will often be found that the wines take on a musty taste, caused by the decomposition of the old sediment brought on by the action of the new ferment germs.

**CALIFORNIA APPLIANCES.**—In California, where wines are handled on a large scale, much larger cooperage is used than in Europe, and of somewhat different style. The fermenting tanks range from 2500 to 10,000 gallons, and in some places as high as 25,000 gallons. For storage, the packages range from 5000 to 50,000 gallons, from 10 feet to 20 feet in diameter, made up of redwood, with staves 2 inches to 3 inches thick and 10 feet to 20 feet high. This style of package is used mostly at wineries where 1000 tons to 15,000 tons of grapes are handled during the season. In these same wineries wines are stored in cooperage of 2000 gallons to 3000 gallons capacity.

New wines are generally held intact until the second racking in the spring, when they are assorted and blended. Wines that show no improvement with age, although not spoiled, are used for the production of brandy for the market, along with fresh juice. After the spring fermentation, should there be any, wines that have remained in the country about six months are shipped to San Francisco, where the blending for the various markets is performed. For England a Burgundy type is blended; for China and Japan, the Bordeaux type. New Orleans uses a wine more on the line of "vin ordinaire." New York takes various Burgundy types and light clarets, as well as strong stringy wines for the Italians.

For blending these different wines oak cooperage is used up to 80,000 gallons capacity, but principally 25,000-gallon oak tanks are employed. A "blender"—or cylinder—10 feet long and 3 feet in diameter is used, into which the wines enter through ten 2-inch hose, and whose outlet is one 4-inch hose, which connects with a centrifugal pump with a capacity of 20,000 gallons an hour. In this way, after making four blends of 250,000 gallons each, 1,000,000 gallons can be reblended.

After blending, the wines are allowed to rest for about ninety days, when they are put through a filter machine and drawn down into oval casks of from 1000 to 4000 gallons capacity.

**CLARIFICATION.**—Gelatin and the whites of fresh eggs are used in the clarifying of red wines. From ½ pound to 1 pound of this material is used to 1000 gallons, according to the age and clearness of the wine. When using the whites of fresh eggs, all the way from half a dozen to a dozen are used to 100 gallons of the wine to be fined, one dozen being the maximum.

The fining material is thoroughly soaked in water and then beaten to a froth with a rattan broom. It is then poured into a tub of about 20 gallons capacity, containing from 5 gallons to 10 gallons of the wine to be fined, and the mass again beaten till it froths. After this it is poured into the cask to be fined and thoroughly worked through by agitating the wine with a force pump for one to three hours, depending upon the size of the cask.

For clarifying white wines Russian isinglass is used. A solution of this material is made consisting of 7½ pounds of the dry Russian isinglass (gelatin) to 75 gallons of water, the dry isinglass having first been soaked for twenty-four hours in water until it becomes soft and pliable, after which it is made into a homogeneous mass by grinding and then worked through a sieve until it becomes thoroughly dissolved. In this dissolved form ½ gallon is used to each 1000 gallons of white wine. It is beaten to a froth, the same as the gelatin first mentioned and other fining matters, before being added to the wine.

After the addition of fining matter the cooperage is filled to the bung. The package must be filled to the bung again the next morning, as the wine contracts, leaving a space. The casks must be filled up for about three days in succession before the shrinkage will cease, and regularly once a week thereafter, until the wine is drawn off the fining, as packages often fail to come clear after fining if filling up has been neglected. This has been proven by allowing one or two packages to remain without filling up.

It is also highly necessary that the bung fit perfectly into the bung hole. Often in old cellars, where the bungs are frequently removed, the bung hole is "out of round" and the bungs much worn, forming a shoulder. The cost of a bung is not at the utmost over 5 cents, while the damage to a cask of wine of 2000 gallons capacity, at 5 cents per gallon, would amount to \$100. It is oversight in these small matters that proves very expensive in cellar work.

The wine is left on fining all the way from twenty to thirty days. If at the end of this period it does not come clear, it is drawn off and reclarified. Too much filtering flattens wine and injures the flavor. Heavy sulphuring of casks often precipitates color in the red wines.

About sixty days after wines have been blended a thorough analysis is made. Sweet wines, when new and properly made, average 0.052 volatile acid; at 0.100 they stand condemned. Wines of the sherry type should not go over 0.50 free acid, and are condemned at 0.100 volatile acid. Clarets for export



should not exceed 0.12 volatile acid; at 0.14 they are considered doubtful, and at 0.16 they are condemned. The average alcohol of red wines produced in California is 12.25% and of white wines 11.5%. Some white wines made from Burgers, Green Hungarians and other light varieties run as low as 10% and are similar to the German Rhine wines. Wines of the Sauterne type go from 13% to 14.5% in alcohol. From analyses it is seen that the standard white wines will pass the laboratory of any country in which standards are adopted. Unfortunately, there are no such regulations in the United States.

## THE APIARY.

### Bee Stings and Their Rational Treatment.

By D. A. M'LEAN in Gleanings in Bee Culture.

The old and well-worn adage of a small amount of prevention being worth a much larger amount of cure would be peculiarly applicable in considering the above subject if it were not that, unfortunately, our "prevention" does not always prevent, and we are obliged to resort to the "cure" after all. The best management of bee stings is, no doubt, to so manage as not to receive them; but, as all bee keepers know, this is not practicable, and all who handle bees expect to receive more or less stings.

While to many—and probably the greater number—this is a matter of indifference, to a good many—and especially the younger members of the fraternity—it is quite a serious matter, and one of the principal obstacles or objections to an otherwise extremely pleasant occupation. It is, then, perhaps, worth while to see if we cannot discover some more certain relief for the pain of the stings and some more successful method of treating them than has so far been recommended. All remedies for relief from the pain of bee stings, so far as I know, consist in the application of some supposed antidote to the poison, or of agents having some other supposed action, immediately over the wound made by the sting. Now I wish to indorse emphatically what is said on this subject in the A B C of Bee Culture under the head of "Stings." To suppose that, by applying a remedy to the surface, you can neutralize the poison that has been injected entirely underneath the skin into the sub-cutaneous tissues, and do it almost instantly, as it must be done to prevent the effects—irritation of the nerves, causing pain, and later on swelling—does not seem to me very reasonable, and I am convinced it rarely, if ever, succeeds.

Let us consider for a moment the "anatomy and physiology," if I may so call it, of a bee sting. The poison is injected under the skin, among the fine network of nerves, blood vessels and lymphatics which lie in that position. Now, the pain due to a sting may be divided into three separate kinds or portions. First is the sharp lance-like stab as the sting penetrates the flesh. Then after a brief interval begins the pain due to the action of the poison on the contiguous nerves. The duration of this—the severest pain—is variable from a few seconds to half an hour, or even more. Then, after a still longer period, swelling, with its attendant uncomfortable feelings, supervenes. This third stage is frequently absent, especially with those who have been frequently stung.

The first of this series we do not expect to be able to avoid unless we escape the sting altogether; and it is to the second and third that we direct our remedies.

Now what, if anything, can we do to prevent or alleviate the effects of the poison? Let us examine a little more carefully what takes place. The material injected beneath the skin consists largely of an acid substance that is a violent irritant to nervous filaments. As soon as it is placed in contact with those filaments, pain is felt and the blood vessels and lymphatics begin to absorb it, spread it into the surrounding tissue and carry it away. If the entire contents of the poison sac were to be thrown into a vein of considerable size, and carried directly to the heart, I can very well understand how a single sting, by causing a clot of blood to form in the vein, might produce a very serious and possibly fatal result.

But the pain produced by the poison in contact with the nerves is of only brief duration if left entirely alone. Why? Probably because the acid of the poison has become neutralized by the fluids and substances it has come in contact with. Now, if, as soon as a dose of the poison is received under the skin, the small area involved could be cut off from the surrounding tissue and all spread of the poison prevented until it had lost its virulence, no other effects would follow. Now this is exactly what I propose to do as far as can be done with the means at hand by my method of treating bee stings, and that I have followed for a number of years with very gratifying results.

When I receive a severe sting (and there are grades of severity as you all know), I scrape out the sting with my finger nail if it is still adherent, and immediately grasp with the thumb and finger the portion of skin where the puncture is, squeezing it very firmly between them—in fact, pinching it quite violently. This has the effect of numbing, to a great

extent, the sensibility of the nerves in the portion pinched, so that the effect of the poison is not felt on them. It also has the effect of preventing the spread of the poison into the surrounding tissue. After holding in this manner for a few seconds I ease up on the pinching. If the pain begins to return I tighten the "pinch" again, and hold it until, on letting loose, the pain no longer returns, and I know the poison has lost its power to produce irritation of the nerves, and, consequently, pain. That is generally the end of the trouble with that sting. Occasionally, and especially if you have forgotten during the first hurt of the sting and rubbed the spot a little, you will have swelling later, with the discomfort attending it, but the severe pain caused by the poison has been avoided. This may be considered a good deal of trouble and loss of time, and, if resorted to every time a sting is received, it might be so; but that is scarcely necessary.

Of the stings I receive while in the yard, probably four-fifths of them could not be located by me in five minutes after receiving them; but then there is the other fifth. As every bee keeper knows, he occasionally receives a sting that is painful beyond all sense or reason, and makes him feel as though he wanted to say or do things. These are the stings that the pinching treatment will relieve, and enable him to keep his temper, and, after a few minutes, go on with his work, and I consider it well worth the time and trouble required.

To sum up the treatment, do not rub the place when a sting is received; do not resort to medicines applied over the spot, as they can do little or no good; do not lose your temper. If the sting appears to be a severe one, and you have time, scrape out the sting with the finger nail; grasp, with the thumb and finger, the skin where the puncture is located, and raise from the flesh underneath and pinch it hard, holding it firmly until, on letting loose, the pain no longer returns. Resume your work with the charitable thought toward the bees that they do not sting you in a spirit of malice, but in the legitimate defense of their home and property.

## THE DAIRY.

### What Holsteins Are Doing and Can Do in the West.

In the address by President W. J. Gillett at the last meeting of the Holstein-Friesian Association, there were some interesting figures about what the cows are doing and a recognition of their opportunity on this coast. These matters are widely interesting, and we quote as follows:

It may be safely said that the past year is the banner year in the existence of this Association and in the ultimate triumph of the breed. Fresh laurels have been won and many records broken. Our method of having the performances of our cows officially supervised by experiment stations is one that is beyond criticism and establishes the absolute accuracy of every record entered for advanced registry. Under such supervision, and calculating butter on the basis of 80% fat, a heifer at one year and ten months of age has surpassed any previous record for animals of her age, with a yield of fourteen pounds and five ounces butter in seven days. A heifer at three years of age has made a world's record for animals of that class with a production of twenty-seven pounds and seven ounces. A heifer at four years of age has reached the enormous yield of twenty-nine pounds and four ounces and is breveted the world's champion for animals of her class. Last, but not least, a mature cow has justified our anticipation and has scaled the summit of the thirty-pound mark with an officially authenticated record of thirty pounds and ten ounces butter in seven days, and Sadie Vale Concordia has erected for herself a monument that will be as lasting as the beautiful fields at Walworth, and her record stands out as a befitting testimonial of the great skill and untiring energy of that now retired firm by whom she was bred.

During the era of official testing there have been reported records of four cows that have exceeded a yield of twenty-four pounds butter in seven days; 83% of this number have during the week of their tests showed an average milk yield of upward of seventy pounds per day, and 54% have exceeded an average of upward of eighty pounds per day. Of the twelve that have surpassed a yield of twenty-six pounds butter in seven days, 84% have been eighty-pound cows or better. Of the seven that have yielded upward of twenty-seven pounds butter in one week, 100% have made an average of eighty pounds per day; 57% have reached ninety pounds, while the only thirty-pound cow in existence reached an average of nearly 100 pounds milk per day. From these facts only one conclusion can be drawn. If we seek a multiplicity of thirty-pound cows, we must look for them among the cows that produce phenomenal quantities of milk. The data at hand, covering a period of nine years of official testing, shows conclusively that in almost every instance minimum yields of butter have followed maximum quantities of milk containing a fair per cent of fat. If our aim in breeding Holstein-Friesian cattle is to produce large quantities of but-

ter, it would seem a wild speculation to indulge in the fad of the mythical 5% cow.

Every report that comes to us at this time brings with it great, exciting, gratifying hopes. During the past year 635 officially tested cows have been entered for advanced registry, and of this number eighty-two have exceeded a yield of upward of twenty pounds butter in seven days, as against a total of 601 tested last year, of which but forty-six made a yield of better than twenty pounds per week. In the 30, 60 and 180-day tests many most remarkable records have been made, which in many instances have far surpassed any records previously made by cows of any breed under official supervision. Such evidence of superior performance can but attract attention and make a lasting impression upon every person identified with dairy cattle interests.

CALIFORNIA RECORDS.—The past year another battling ram has been placed against the walls of our competitive butter tests, and the great records that echo from the Pacific coast tell of other and additional contestants for honor and pride of place. Let us indulge in the hope that others of the Holstein-Friesian fraternity on the great Western slope may profit by opportunities now offered for displaying the merits of their cattle through the medium of official testing. Nature has provided this great region with environment and natural conditions for dairy husbandry that make it a formidable rival for the East and middle West. Dairymen have not been slow to recognize the general adaptability of the breed to their needs and conditions, with the result that there is a wide diffusion of Holstein-Friesian blood in the dairy herds of the far West, and that large and beautiful pure-bred herds have been established. Into these herds has been introduced some of the best producing blood of the breed, and a plan of official testing can but bring forth some remarkable records that shall reflect great credit upon both the owner and the breed. We exhort every breeder to test his cows, and let him forbid that the animals of his herd capable of great performances should be like the flower that "is born to blush unseen."

Very gratifying, indeed, is the increased number of transfers recorded during the past year. It is an indication of a lively traffic and demand for our cattle; it shows public esteem and a broadening of our field; and it shows new converts and a stimulation of prices.

### Experiments on Alfalfa Bloat.

Professor D. H. Otis of the Kansas Experiment Station says: There is probably no crop that appears more refreshing and inviting in the spring of the year than a good field of alfalfa. The plant starts early, makes rapid growth, and when dry feed becomes scarce or stale there is a temptation to pasture it with various classes of stock. For horses, swine or chickens, alfalfa undoubtedly furnishes the best pasture obtainable. For cattle, there are certain dangers attached to its use that should be carefully considered. The cow has four stomachs. The first, or paunch, is where the bulk of the food consumed is stored, ready to be ground in the process of chewing the cud. Under certain conditions some feeds, green alfalfa being a notable example, while lying in the paunch will form gas, and when this gas is present in sufficient quantities it may cause the cow to bloat to such an extent as to cause death, unless the animal is punctured by making an opening into the paunch to allow the escape of the gas. No doubt if alfalfa could be used successfully as a cow pasture it would mean greatly increased profit from both dairy and stock cattle. During the last two years the Kansas Station has been experimenting to see what could be done in the way of pasturing alfalfa. This work has covered both fall and spring seasons.

ONE EXPERIMENT.—On September 26, 1901, nineteen common cows were given all the alfalfa hay they could eat, and in the afternoon pastured on alfalfa, which was in a fine, succulent condition, as a result of the September rains. They were watched carefully and left in from an hour to an hour and a half. No bad results followed. The next morning they were again fed all the alfalfa hay they would eat, but after having had a taste of the green alfalfa they seemed to care very little for the hay. They were turned into alfalfa pasture at 7:20 A. M. and were taken out at 8:35 A. M. No sign of bloat was apparent. They were left in a dry lot, with access to alfalfa hay. At 1:20 P. M. one of the smaller cows was bloated. To give the matter a thorough test, the remainder of the herd was again turned on alfalfa pasture and remained there about fifty minutes, when one of the cows showed signs of bloating. Gas formed so rapidly that it was necessary to use the trocar and cannula. The paunch was so full of blood that very little gas could be removed by the cannula. Four other cows were also bloated. Three were relieved by a gag, and one was finally relieved by the trocar and cannula, although complete relief did not occur until about 7:30 P. M.

WITH CALVES.—The first of November we took ten calves, averaging about six months of age, and put them on pure alfalfa pasture, five with bits and five without bits. These calves became accustomed to



alfalfa gradually, the time being increased to fifteen minutes per day until they got all they would eat. This experiment was continued through the month of November, and we did not have a single case of bloat, with or without the bits.

**WITH COWS AGAIN.**—We continued the experiment with the bits during the months of May and June, 1902, using cows instead of calves. Three cows were provided with bits and one without. These cows were first allowed to eat all the tame grass pasture that they could handle, after which they were turned on alfalfa for fifteen minutes. The next day they were given the same treatment, with the exception of increasing the time on the alfalfa to thirty minutes. The third day they were on one and one-half hours, the fourth three hours, and then all day, and a little later were allowed on all day and night. No case of bloat appeared for over a week. At this time the alfalfa was cut and soon after the cows were eating second growth. One morning soon after this the cow without the bit bloated immediately after being watered. She was relieved of the gas by a gag, after which an alfalfa bit was placed in her mouth, when she was allowed to return to the alfalfa pasture. For a couple of days all went well, after which she bloated up six different times, and the last time had to be punctured. One of the other cows bloated three times and another four times. One of the cows went through the experiment without bloating at all. About the middle of June a fifth cow was added to the experiment with a bit. In less than ten days she had bloated twice.

**CONCLUSIONS.**—Our experience indicates that it is unsafe to pasture alfalfa with cows, although some farmers have done it successfully, and we have done it successfully with some individual animals. If a man wants to run the risk of pasturing alfalfa we believe the bits are a help, in that they prevent the cows from eating alfalfa as rapidly as they would without them. The bits might have some influence as a gag, although they appear to be rather small for this purpose and have a tendency to make the cow's mouth sore. Our experience indicates that the openings into the bore of the bit are of no particular value, as they are stopped up with the green feed within five minutes after the cows commence eating. The straight bit seems to be better than the curved ones, as they are more easily cleaned. The cows did well while on alfalfa. They increased in the milk flow and not only did not need grain, but would practically refuse to eat it; but they required so much watching, especially with the second growth of alfalfa, that we considered it too risky to keep them on it longer.

## HORTICULTURE.

### The Planting and Culture of an Apple Orchard.

By R. A. JONES of Spokane, Wash., at Northwest Fruit Growers' Association.

It is scarcely necessary to say that the soil should be deeply plowed and well prepared before undertaking to plant the trees. We will start in by taking first-class apple trees from the nursery, and will suppose that they are all good. The distance for planting will depend upon local conditions. If I were to plant where ground is limited and high priced, and a water supply available, I would plant the trees 15 feet north and south, and 30 feet east and west. This will permit the sun shining all forenoon on one side of the trees and all afternoon on the other, even after the tops have come together in the rows. With this distance for planting it is presumed that the soil is rich and retentive of moisture, or that irrigation is at hand. If I were to plant on dry soil I would make the distance 30x30 feet. On the first plan of planting, 15x30, as mentioned, it gives double the crop for the first twelve or fifteen years, but after that time every other tree will have to be removed, leaving the orchard 30x30 feet each way. But if you have ground plenty, and land is not too valuable, I would prefer to plant them 30x30 feet in the start.

**PROSPECTING.**—In selecting a location for an orchard I would sink test pits a short distance apart over the tract to be planted. These pits I would sink at least 4 feet deep, and 5 or 6 feet would be better. The object of this is to discover whether hardpan is close to the surface, and if it is found close to the surface reject it for orchard planting, as no orchard can be successful where hardpan is near the surface.

**PLANTING.**—In planting the trees I would make the hole somewhat larger than the roots, and in the bottom of the holes raise a little mound or cone by a few strokes of the shovel, which is easily done. This leaves the proper slope on which the roots may lay when placing the young trees in position, and avoids the necessity of getting down and spreading the roots and putting them in position as the dirt is filled in. If prevailing wind is strong I would lean them considerably to windward. This will not look so nice when first planted, but in two years you will find the young trees have reached a perpendicular position, being almost constantly pushed to the northeast by

the prevailing southwest winds. The proper depth for planting is about 2 inches deeper than the young trees grew in the nursery row. In replanting an orchard where some of the older trees have failed I would remove the dirt for a considerable diameter and depth where the dead tree stood and replace it with fresh soil that has not been exhausted, otherwise young trees that are planted among a lot of older ones often grow very weak and unsatisfactory. A mulch of manure around these replanted trees is very beneficial.

In filling in the dirt around the roots of the young trees I would use water and wash it in, if it is convenient. By so doing all the roots have a perfect earth contact, which is very necessary. If water is used the last part of the filling for 2 or 3 inches near the surface should be of the ordinary moist dirt in order to prevent baking of the ground; if water is not conveniently at hand, then it will be necessary to work the dirt well among the roots, pressing it down firmly, and finishing with loose dirt on the top. A mulch of manure around the young trees is very beneficial. It is also necessary before planting the young trees to prune off all broken or badly bruised roots and trim back the top severely; the side limbs to, say, 2 or 3 inches long, and the main leader shorten back a foot or two. In general, in this country, I prefer fall planting, but just as good results may be obtained from spring planting, if it is done right. Cultivate the ground every two weeks during the spring and summer. This will constitute about all that is necessary for the first year, except spraying, if insects become troublesome. The work of the second year will not be much; if the trees have made rapid growth the previous season they should be cut back, say, half the past year's growth; and if the growth was weak they should be cut back even more than half.

Cultivate as in the case of the first year, every two weeks until September 1. For a year or two more, until the trees begin to bear, the treatment will be similar to the previous years. The pruning that will be necessary is to form the head of the tree properly, as will be touched upon hereafter, and shorten the past year's growth back generally about one-half.

**TRAINING FOR ANNUAL CROPS.**—When the trees begin to bear is a critical period in rearing them properly in order to have a uniform crop each year. After the young fruit is set I would remove the fruit from every other fruit spur, being careful not to injure the leaves on the spur, and on the remaining spurs which carry fruit I would thin the fruit down to one or two apples on each spur. By so doing the spur which is relieved of all fruit this year will form buds for the next year's fruiting, and the spur which carries fruit this year will not produce any fruit next year, but will form buds for fruit the following year; hence one set of spurs will be carrying fruit one year and the other set of spurs the following year, and so they will alternate and always give a uniform and regular crop. This is one of the most important things about the culture of a young orchard, and prevents the overloading and breaking down of trees, and the quality will always be high, other things being right.

**PRUNING.**—My choice is to prune a tree with a strong main stem or leader, as Prof. Bailey of Cornell University calls it, "make a two-story tree," making the second set of limbs several feet above the first set. In either case of the low-branched or the two-story high-headed tree, it is important to shorten back each season's growth about half. This makes the young trees strong and enables them in future years to carry their loads without breaking. By shortening back each year, causes a large amount of limbs to sprout out whenever the limbs of the previous year have been cut off. These will have to be thinned down to a proper number in order to let sun and light into the trees. In shortening back the limbs, always cut to a good, plump, healthy bud, and see that it is one that has the right direction. All superfluous limbs should be cut out. In varieties like the "Jonathan," the superfluous limbs may be cut close to the main limbs upon which they grew; the lower portion of each season's growth will form fruit spurs and the outer ends will throw out young shoots, which will generally be too numerous. In the case of "Rome Beauty" it is different, for the most of their fruit grows on the tip end of long spurs or slender limbs, and it is more difficult to prune these trees with a view to future fruiting than the Jonathan. I might class them in two great classes: those with long fruit spurs and those with close, short spurs. The short spurred kinds are easier to train. Some recommend that in cutting off the superfluous shoots that a stub be left on which the fruit spurs may form. This, I judge, would be applicable more particularly to the varieties that have long spurs, for the main limbs of those trees are generally blind and devoid of buds which eventually would make fruit spurs. It is scarcely necessary to say that crotches are very bad things to have in an orchard tree, but if you have them, you must deal with them the best you can. Bolting them is advisable. They may also be secured by putting screw eyes of a suitable size in the main limbs, and connect the two eyes by strong wires. Prof. Bailey also recommends a natural live tie by twisting two of the young limbs from each of the main branches

around each other and allow them to grow together, forming a natural tie to the main limbs. If young trees are properly pruned no bad crotches will result. Trees that have been properly pruned while young, and fruit properly thinned, will be in but little danger of breaking down or needing any ties.

**SPRAYING.**—In general the most common pests we have to contend with are the apple aphid and the codlin moth. The aphid can generally be kept in check by spraying every spring before the leaves appear, with lime, sulphur and salt, and the codlin moth can be successfully combated by spraying with white arsenic or Paris green. This should be done first within ten days after the blossoms fall, and thereafter every month until September. It has often been said that spraying is a humbug, but I challenge this. Last year I sprayed part of my orchard, and the other part I left unsprayed—right side by side. The trees which I sprayed gave 80% of clear fruit, and those which were not sprayed did not bear a single apple without a worm in it. The great trouble with spraying is it is not done well. This is where most of the failures come from. In spraying great care should be taken in the case of aphid to cover every part of the branches, leaving nothing uncovered, for the spray must come in contact with the eggs or the insects, or it will be useless; and in the case of spraying for the codlin moth, the solution should touch all the fruit thoroughly.

**IMPORTANCE OF CULTIVATION.**—In the Eastern States there was an old practice of seeding down the orchards. This was a great mistake, as cultivation is one of the most important things in orchard culture. Without it, your orchard will be a failure in this country. One very important thing obtained by cultivation is retention of moisture. Do not cultivate too deep; 4 inches is generally deep enough, and all summer long the surface of the ground in your orchard should be as dusty as an ash heap, and after every rain or irrigation the ground should be cultivated and the top made into a loose dust. You will find upon examination at the bottom of this dust that the soil is moist and in fine condition. This dust as a result of cultivation is like a mulch, the particles of earth being so far apart that capillary action cannot take place, hence moisture cannot pass through it to the surface of the ground except in a slight degree. All dry, hard surfaces favor capillary action, and cause evaporation to take place very fast, which makes a serious draught on the moisture contained in the soil. Some recommend the planting of crops between the young orchard trees. If your ground is very rich and moist, or if you have plenty of water to irrigate, then you can grow hoed crops, or cultivated crops, between the rows with profit. Such crops should not be nearer than 4 to 6 feet of the young trees, but if your soil is thin or dry I would not plant anything, but give it all to the trees.

### True Perfumery Rose.

When Mr. Fred M. Reed was traveling in Europe two or three years ago, says the Riverside Press, he visited Grosse, in the south of France, the center of the manufacture of perfumes and essences from rose and orange blossoms. He was especially interested in the true perfumery plant growing in the adjacent country, but was not allowed to take either cuttings or roots, as that variety of plant, as well as the secrets of manufacture, is guarded with jealous care. He secured some blossoms which he preserved. After returning he made inquiry of botanists as to the French perfumery rose in this country, but could learn of no plants. He then wrote to the botanical department at Washington. Mr. Galloway, then chief of the bureau of plant industry, replied that there was no sample of that variety in their collection, and, so far as he knew, it had never been introduced into this country, as it was very hard to secure, but said he would make an effort to get a sample for him. Some weeks ago Mr. Reed received a letter—announcing that he had secured and was forwarding to Mr. Reed some of the perfumery roses—from Mr. Pieters, who was in charge of the matter of introducing new plants into this country for the Agricultural Department.

The plants were received in good condition from their long journey. Mr. Reed gave samples to Prof. Zumbro and E. L. Koethen and planted fifteen plants himself, all of which are growing nicely. But the variety has one brief season of blooming—in May—so the interesting part will have to be waited for.

The foliage is a dull pale green. Mr. Reed says the blossom is quite like that of the old-fashioned cabbage rose.

Mr. Pieters, recently in California on business for his department, called on Mr. Reed Saturday and was pleased to find the rose plants had been secured all living and in vigorous condition. He said they had made much better progress than those planted in the department garden at Washington.

Mr. Pieters is enthusiastic in his special work and doubtless is accomplishing what may prove of far-reaching benefit to California as well as to other parts of the country in introducing new varieties of plants. From here he goes to Imperial to study the conditions with reference to introducing the date palm for commercial purposes.



## Agricultural Review.

### ALAMEDA.

**WHITE AUSTRALIAN WHEAT.**—Livermore Herald: M. G. Callaghan brought in from Fred Dieckoff's place one day this week a sheaf of the new White Australian wheat grown by Mr. Dieckoff from seed brought from Australia by his son-in-law last winter. The grain has not been harvested and it is impossible to give any information concerning the yield, but the sample heads picked at random indicate that the new wheat will be a great producer. The heads are long and there are six rows well filled. Mr. Dieckoff expects to have tests made by State University experts and milling companies as to the gluten content.

### FRESNO.

**WHEAT AND BARLEY YIELDING LIGHTLY.**—Sanger Herald: Headers and combined harvesters are in evidence on all sides, running from daybreak till sundown, the yield of wheat and barley being generally light. In fact the best yield we have heard of hereabouts this season is eight sacks of wheat and sixteen of barley raised on summer-fallowed land owned by Burnett Bros. So far our farmers have sufficient help at \$2 per day and board.

**HEAVY APRICOT CROP.**—Selma Enterprise: The work of harvesting the apricot crop is well under headway and hundreds of women, girls and men are engaged in this occupation. The orchards in the vicinity are well supplied with hands, although there is such a demand, especially for women and girls to do the cutting. The large number of hands needed for the apricot harvest will be comprehended when it is stated that over 100 women are at work on the Gartenlaub ranch, 4 miles north of town.

**ORANGE SHIPMENTS.**—Sanger Herald: Two carloads of Valencia late oranges were shipped from here last week by the Gregory Fruit Co. to Eastern markets, and there are several hundred more boxes to be forwarded in small lots in the near future. We understand that the growers netted about \$1.25 per box, which is a good price, considering that the fruit was poor and off size.

### KINGS.

**FATALITY AMONG CALVES.**—Hanford Journal: During the past month Frank Griffith, stock inspector for Kings county, has found numerous cases of young calves dying from something that closely resembles kidney disease, the true nature of which he has up to the present time been unable to determine. It seems to be a local disease, not contagious, but fatal in its results. He has tabulated the cases and sent a description of them to Dr. Blemer, and anxiously awaits the State Veterinarian's diagnosis.

**TILTON APRICOTS ALL RIGHT.**—Hanford Sentinel: The Tilton apricot which has been sold extensively by J. W. Bairstow of this county, is proving its worth right along. Mr. Shirk who has a small orchard in the Cortner colony, just north of Hanford, has 100 trees just coming into bearing, and the fruit is excellent and the crop is good. Mr. Shirk says he has had experience with many varieties of apricots, but he prefers this Tilton variety to all others. He thinks the quality is superior and that the Tilton is a safe bearer, and a hardy tree well adapted to this country.

### MODOC.

**HEAVY WOOL CLIP.**—Alturas New Era: The wool clip in this part of the county is heavy and of good quality. The sheep shearers say they cannot make good wages at shearing some of the flocks of sheep, the fleeces being so heavy that the number they can shear in a day is much less than where the fleece is lighter. These sheep are also fat and in very fine condition.

### MONTEREY.

**PROFITS OF DAIRYING.**—Salinas Index: Chas. Forster, who lives on the nursery road, sent two cows' milk to W. T. Mitchell's cream depot, which paid him \$6.12 for 437 pounds of milk or \$1.40 per cwt. D. S. Dedini, who milks seven cows, received \$17.34 for ten days' milk, or at the rate of \$7.43 per cow a month. Agostini & Beffa received \$153.33 for ten days' cream, or at the rate of \$6.00 per cow slack in milk. These prices were for butter fat at 26 cents, clear of expenses.

### RIVERSIDE.

**HORTICULTURISTS AFTER BLACK SCALE.**—Riverside Correspondence Los Angeles Times: The weather conditions have been favorable for the rapid increase of the black scale pest, and it is generally conceded that active measures must be taken to eliminate it. Horticultural Commissioner Cundiff believes fumigation, all things considered, to be the best, but under proper conditions he has found spray-

ing with distillate emulsion effective. Wherever the pest has got a good hold it has become serious, depreciating the quality and diminishing the quantity of the fruit. The cost of spraying is estimated at 14 cents for large seedling trees, with half that amount, approximately, for navels. The process of spraying requires thorough and intelligent work. When the weather grows colder the trees are liable to be injured by spraying. Red scale must be treated by different methods. Representative fruit growers met recently and nominated the following committee to investigate the pest: J. R. Cuttle, J. H. Reed, B. B. Wright, L. F. Darling, C. E. Kennedy, J. R. Hudson, H. E. Meacham, R. Brimsmead, S. Wright, A. J. Everest.

### SACRAMENTO.

**FIRST FRESH FRUIT TO EUROPE.**—A telegram states that on Saturday last Sacramento made the first shipments of the season to London. Eight cars of assorted fruits, chiefly plums, prunes and Bartlett pears, were forwarded.

### SAN JOAQUIN.

**PRICES FOR APRICOTS AND PEACHES.**—Stockton Independent: The best quality of apricots are bringing fancy prices these days, as the market has advanced from \$16 a ton to as high as \$25 a ton, and then it is impossible for the canneries to secure as much of the fruit as is needed. Agents for the independent cannery in Sacramento are given the credit for forcing prices upward as they put in an appearance in the northern part of San Joaquin county last week and commenced increasing the prices daily to secure the fruit. This caused other buyers to follow suit. Most of this kind of fruit has been contracted for and it is fast being cleared up. Apricots for drying are bringing \$12.50 to \$16 a ton. Small shipments are also being made to Eastern points, but most of the crop will be used at home this season. Though it is claimed that there will be a large yield of peaches, prices are holding very strong and in some instances as high as \$25 a ton has been paid for fancy fruit. The ruling price is about \$20 a ton for canning varieties and \$12 to \$16 for drying qualities. Most of the fruit is of very fine quality.

**HAY BALERS DISCOURAGED.**—Stockton Record: Farmers are having some difficulty in baling their hay. The scarcity of help and the demand for higher wages have put the balers at a disadvantage. Sam Markey of this city, who operates two hay presses, cancelled his orders this week and stored his presses.

**BARLEY AND WHEAT YIELD.**—A recent trip throughout the county has just been made by J. W. Smith, buyer for Captain Smith, and he reports an average yield. On the upper portion of Roberts Island, west of Lindstrom's Ferry, barley is reported to yield an average of seven sacks per acre. The Jones' tract, in the new reclamation district on the lower section of Roberts Island, is turning out an average of forty sacks per acre. The burned sections of Union Island would have averaged thirty-five sacks. Through the northern end of the county the crop is of medium average and in the central and southern portions the yield is light. The wheat averages two grains to the mesh.

### SAN LUIS OBISPO.

**BEST RETURNS FROM EARLY SUMMER-FALLOW.**—Paso Rohles Leader: The crops are short in some places; especially is this true of spring-sown grain and very late summer-fallow. Early summer-fallow is turning out well in most places. On the Shackelford ranch, farmed by Ross Reynolds, the summer-fallow will yield from ten to twelve sacks to the acre, while the winter-sown grain will only produce from three to four sacks.

**LIGHT CROP.**—Tribune: Harvesting is about completed in the vicinity of Cayucos, and the crop is shorter than any since the dry year. Only 2½ tons of binder twine was sold in Cayucos this season.

### SANTA CLARA.

**NEW FRUIT PACKING COMPANY.**—Los Gatos Mail: The organization of the new fruit packing company at Campbell has been perfected. The officers are: President, Robert W. Mantz of Berryessa; vice-president, J. M. Lipscomb of Saratoga; secretary, Prof. James of Campbell; treasurer, Benjamin Campbell of Campbell; manager, Robert Wilson of Los Gatos. The board of directors are: Andrew W. Altkin of Campbell, Robert W. Mantz of Berryessa, J. M. Lipscomb of Saratoga, Robert Wilson of Los Gatos and B. O. Curry of Campbell.

### SANTA CRUZ.

**DWARFED APPLES.**—Watsonville Pajaronian: Charles Spreckels, in the employ of the Simpson-Hack Fruit Co., brought to town a limb of an apple tree which was filled with dwarfed and shriveled apples. The limb was taken from a

tree several years old and the fruit thereon seemed to be healthy and plump with the exception of one or two limbs, and Mr. Spreckels was at a loss to know just what was affecting the limbs upon which were found the stunted fruit. The apples were gradually drying up. The matter was brought to the attention of Prof. W. T. Clarke, who, upon examining the apples, quickly explained the reason for such a condition. He said that the Aphis pomæ, or green aphid, had attacked the fruit when young, but before the pest had a chance to spread over the tree it was killed by ladybugs. When this serious parasite once attacks apples they will never recover from the effects. The green aphid saps the life out of the leaves and the tree loses its productive power.

**HEAVY LADYBUG CONSIGNMENT.**—Yesterday Horticultural Commissioner C. H. Rodgers received a consignment of 1,600,000 ladybugs from Andrew Church of Jamesburg, Monterey county. These little creatures are to be distributed among the various orchardists who ordered them during the past spring. This is the largest single shipment of ladybugs ever received in this valley.

### SHASTA.

**CODLIN MOTH AND PEAR SCAB.**—Redding Searchlight: The report of the Shasta county horticultural committee for the months of May and June of this year has been made to the Board of Supervisors. The committee is made up of William Weaver, C. N. Tharsing and George A. Lamiman. They report that the orchards along Oak Run, particularly the apple orchards, are badly infected with codlin moth, and make complaint of the uncleanly and unkept condition of the Charles Hufford orchard in that vicinity. According to the report, the codlin moth has been practically routed in the orchards about Anderson, but the pear scab is quite prevalent and threatens serious injury to the orchards in that vicinity. The orchards of the Happy Valley district are reported well kept and cleanly, although the codlin moth is prevalent.

### SOLANO.

**NOT SO BAD AS ANTICIPATED.**—Rio Vista News: The crops in this vicinity were injured considerably by the late heavy winds but not to the extent that was anticipated. From reports we have received, the wheat on the hills is turning out on an average of about fifteen sacks to the acre; some sections will produce more. The crops on the islands are just beginning to be harvested and it is therefore too early to get correct information on the number of sacks an acre will produce, but it is estimated that the average will be about thirty-five, as the grain is in good condition. The north wind did considerable damage to fruit crops along the river, and we are told that the ground was covered with all kinds of fruit, most of which was a complete loss, as it was too green for any use whatever. However, with no further misfortunes, the crops in this section should be above the average.

### SONOMA.

**NO VINEYARD PESTS.**—Santa Rosa Republican: Professor E. H. Twight of the Agricultural Department of the University of California, was at Sebastopol last week inspecting the vineyards. He found absolutely no pests, but will continue his investigations in August. Professor Twight says that the vines in Analy township are all in splendid condition.

### STANISLAUS.

**FINE GRAIN CROP AND PROFITABLE DAIRYING.**—Modesto Herald: E. W. Brush, below Westport, got 1800 sacks of wheat from one of his tracts, the yield at the rate of fifteen sacks to the acre. He sold it on the river bank for \$1.35. Another tract of 160 acres will yield ten or eleven sacks to the acre, and his barley produced about twenty. "Best crops I ever had," said Mr. Brush. In fact, the best crops in the county this year are in the Westport quarter and west to the rivers. Mr. Brush is milking thirty-nine cows, thanks to his alfalfa, and "they run the ranch and pay some of my old debts, too," is the way he puts it.

**A 2700-ACRE ALFALFA RANCH.**—J. T. Davis, who recently transferred his 2700 acres or more land at Elmdale to the Alfalfa Ranch Co., an incorporation of which he is the leading spirit, says it is the purpose of the company to devote the entire holding to alfalfa. The work will be inaugurated on a large scale directly after harvest. It is not proposed to subdivide nor to lease any of the land, the company to manage it on its own account. Dairying, stock raising and the sale of hay will be the industries to be founded on the alfalfa. The land is a splendid body, noted for its excellent wheat crops.

### SUTTER.

**LARGE CROP OF THOMPSON SEEDLESS GRAPES.**—Yuba City Farmer: As

the season advances the prospects for a large crop of Thompson Seedless grapes in this vicinity grow better. The vines are making a vigorous growth and are full of grapes. Many new vineyards are coming into bearing this year and the outlook now is for about 100 carloads of the dried product being produced here this season. The price has not been settled on as yet, but the growers are holding \$35 per ton green. The buyers paid \$25 last year.

**WORK IN THE HARVEST FIELD.**—The cool weather has retarded the work in the harvest fields somewhat, but the harvesters are now running steadily. The north wind of last week shelled out from one to two sacks per acre of milling wheat, which means quite a loss to those who had not finished harvesting their grain. The general yield of grain for the county this season will be from 60% to 75% of the average.

**CANNERS BUSY ON FRUIT.**—Independent: Superintendent Littlejohn stated last week that 20,000 cases had already been packed by Sutter Preserving Co. and fifteen cars of canned fruit had been shipped out. The payroll averages \$1500 per week and this will be nearly doubled when the cannery runs on peaches.

**DRIED FRUIT PRICES.**—Dried apricots have opened at over 7 cents per pound and as high as 8 cents has been paid in this locality for choice lots. These prices would indicate that the peach market will also open well. Last year it was from 4½ cents to 5½ cents, but the growers are counting on securing from 5 cents to 6½ cents this season, or possibly higher for extra quality.

### TULARE.

**A LIGHT YIELD.**—Times: G. J. Martin, a well-known farmer of the Poplar district, farmed 400 acres to wheat this season, eighty acres of which were killed by the frost. The remaining 320 acres yielded three sacks to the acre.

**DAIRYMEN ESTABLISH A CREAMERY.**—A new enterprise, entitled the Tulare Co-operative Creamery Company, has been inaugurated at Tulare, to take the place of the Tulare Creamery Company. The new organization is composed almost entirely, it is said, of the dairymen who will hereafter market their own product.

**HENS GIVING TWO EGGS IN ONE.**—Dinuba Advocate: The other day Mrs. Walter Evans broke what she supposed from its unusual size to be a double-yolked egg, but on opening it she discovered that it contained, besides one yolk of ordinary size, another perfectly formed egg quite as large as the average pullet's egg.

**RETURNS FROM VALENCIA ORANGES.**—Lindsay Gazette: R. E. W. Besant has four acres of nine-year-old Valencias from which he gathered 1603 packed boxes, which sold for \$1.80 per box net, or a total of \$2885. Besides this he sold from scattering Parson Brown trees in the same four acres, last winter, \$180 worth of fruit, making the grand total in net returns from the piece \$3065, or \$766 per acre. The quality of the fruit was first-class, it packing up 85% fancy. The Camilla ranch, owned by Wm. Postlethwaite, has thirty-nine acres of Valencias, from which twenty-six cars have just been shipped. Each car contained 362 boxes, making a total of 9412. The fruit was heavy, but showed a slight discolor from the use of oil pots, the oily smoke lodging on the fruit, slightly damaging its outward appearance; however, the quality as far as texture is concerned, was not the least bit injured. Mr. Simms, the foreman, states that all the market returns received to date amount to \$1.60 per box net. Figuring on this basis for the entire twenty-six cars, Mr. Postlethwaite will receive \$386 per acre, or a total of \$15,059 net. Hugh Latimer gathered 2709 packed boxes from eight and a half acres of eight-year-old trees. One hundred and eight trees to the acre shows a total of 918 trees and a yield of nearly three packed boxes to the tree. At 362 boxes to the car this also figures seven and a half cars. No returns have been received, but the oranges compare favorably with Mr. Besant's. The prices are higher generally than was obtained last year, and Mr. Latimer says that he received over \$3000 for his fruit on the trees last year.

### YUBA.

**GOOD PRICES FOR HORSES.**—Marysville Appeal: J. J. McGrath has sold his handsome brown Falone driving team to San Francisco parties, and will ship them below during the coming week. The price agreed on is \$700. This makes nine head of Falone stock disposed of by Mr. McGrath during the past twenty-nine months, the total amount received for them being \$2050. This is a very good showing, indeed, considering that the percentage of this stock on the dams' side were simply average mares and not blooded stock.



## THE HOME CIRCLE.

## Man's Best Friend.

He was strong and trim and a good-sized cur,

A giant of dogs; with soft, silk fur,  
Poised head of an intellectual size,  
And two straight, luminous hero-eyes.  
A tail whose gestures were eloquence;  
A bark with a germ of common sense.  
And this dog looked, upon the whole,  
As if he had gathered some crumbs of soul

That fell from the feast God spread for man—  
Looked like a line of the human plan.

There went with his strong, well-balanced stride

A dignity oft to man denied.  
God's humblest brutes, where'er we turn,  
Are full of lessons for man to learn.

That night that he crouched by the yielding door,

And two grim murderous thieves, or more,

Had bribed the locks with their hooks of steel,

He fought with more than a henchman's zeal;

For sleeping loved ones' treasures and life,

He conquered rogue and bullet and knife.

He saw distress with a quick, sure eye,  
And heard the half-choked drowning cry;

A living lifeboat, soon he bore  
A half-drowned man to the welcome shore.

And when the wife of the rescued one  
Wept him her love for the great deed done,

And fondled him in a warm embrace,  
He talked with his fondest, kind old face,

And said: "I have shown you nothing new;

It is what we live for and love to do.  
In lake or river, or sea or bay,

My race are rescuers every day;  
In the snowy gulfs 'mid hills above

My race brings life to the race we love."

The soul of the humble brute has fled;  
The grand old dog lies still and dead.

Oh, manlike brain and godlike heart!  
You were made to carry a noble part.

You did, old dog, the best you knew,  
And that is better than most men do;

And if ever I get to the great, just place,  
I shall look for your honest, kind old face.

—Will Carleton.

## Wanted, a Chicken.

When Jim Hopkins and his wife moved to Oak Park from a crowded city neighborhood he thought he was as honest as the average run, and he would have indignantly repudiated the least reflection upon his morals. But certain events which came off soon after the suburban housewarmings have led him to suspect that there is something the matter with him, and he has lately begun to wonder what he would do if he should find a pocketbook with \$500 in it belonging to somebody else.

It was all on account of chickens that Mr. Hopkins got this sudden jolt to his personal opinion of himself. In the city, where Mr. Hopkins and his wife have spent their few months of married life, chickens were unknown, save as stiff and clammy corpses upon the butcher's counter. Mr. Hopkins had been accustomed so long to associating the idea of chickens with the pale and underdressed specimens hung up on hooks in the butcher shop, which evidently had been chased to an early death and killed with a club, that he had almost forgotten what a chicken looked like in full dress, decked out with feathers and an appetite. But when he opened the nice little cottage in Oak Park a fortnight ago and started in to live in earnest he discovered that the people next door kept chickens.

Last Sunday morning when Mr. Hopkins went out on the back porch to enjoy his first good rest in what he calls "the country" he spied a fat and enticing looking pullet pecking around near the bottom step. Now, Mr. Hopkins insists that the mere sight of the chicken at first did not excite his cupidity, and that his action in going into the kitchen and getting a piece of bread to feed the hen was inspired merely by kindness and the novel experience of watching the chicken eat. But after he had been

scattering crumbs on the steps and around the yard for some time and the hen eagerly gobbled them up, Mr. Hopkins was seized with an unholy idea. It was inspired by a sudden appetite for chicken pie and the knowledge that beyond question Mrs. Hopkins did not have a carcass of a chicken in the larder.

In pursuance of his idea Mr. Hopkins began strewing a little trail of crumbs upon the steps, backing stealthily toward the kitchen door as he did so. The unsuspecting hen came up step by step, closer and closer to its doom. Mrs. Hopkins, glancing out to see what was keeping the head of the house so quiet, was amazed at the spectacle.

"Jim, what on earth are you doing?" she asked.

"S—s—sh!" said her husband. "I'll have her in a minute. 'Go 'way from the door.'"

"Are you trying to get that chicken into my clean kitchen?" demanded Mrs. Hopkins.

"Sure," said her provider, scattering the crumbs industriously. "Just stand behind the door and slam it quick when the hen comes in."

"What in the world do you want it for?" asked the astonished housewife.

"Why, I want to hear it play the piano," remarked her husband. "What does anybody want a chicken for on Sunday?"

"But, Jim," persisted Mrs. Hopkins, "you surely wouldn't try to keep it? Maybe the people that own it are watching you."

"Back away," said Jim, who never took his eyes off the prospective chicken pie. "Just let me do this, will you?" He tossed out a few crumbs with a dexterous hand, laid the trail clear into the kitchen and took his stand behind the door.

The hen came on wearily, cocked her head when she reached the threshold and looked cautiously into the kitchen. But the luncheon spread by the prodigal hand of Mr. Hopkins was too bounteous to be forgone for nameless fears, and the pullet finally hopped into the kitchen and kept working away at the breadcrumbs. Mr. Hopkins cautiously closed the kitchen door and the quarry was trapped. But the battle was only half over. As soon as the false friend approached the hen and attempted to seize her, she made a straight set for the window sash and fluttered madly against the glass, uttering clarion calls for help to the remainder of the chicken colony in the yard next door.

"Jim," yelled Mrs. Hopkins, above the din, "let her out! The neighbors will hear it, and what will they think of us?"

"I don't like to let her go now, after all this trouble," said Mr. Hopkins, making a wild grab for the chicken's leg as she scuttled under the stove, "and besides chicken is dear. Catch her, can't you?"

He made another ineffectual dash at the terrified hen. Around the kitchen went the wildly squawking fowl, and after her went Hopkins into the coal scuttle, into the pantry, under the table and over the sink, until finally Mrs. Hopkins fell upon the luckless chicken and smothered it under her skirts. By some marvelous luck she managed to get hold of the bird by the neck when Mr. Hopkins straightened her out, and thus she shut off the riot call the hen had been turning in. Mr. Hopkins took the chicken and held it between his knees.

"What'll we do with it?" he asked ruefully. Now that the prize was won he was a bit afraid to keep it.

"Oh, Jim, I wouldn't dare keep it," said Mrs. Hopkins. "Those people next door know how many chickens they have, and they would miss it. Then they'd suspect us right away, because they may have seen you feeding it."

"I don't like to let it go," said Mr. Hopkins. "It would make bully soup, wouldn't it?"

"Yes, but you musn't steal the chicken, Jim. How would we feel if they ever found it out?"

"Well, you hold it for a minute," said Mr. Hopkins, at length, with a

heavy sigh, as though a mortgage was being foreclosed on him, "while I go out and see if anybody is looking."

He carefully passed the hen to his wife, and while it was continuing its querulous remarks about its surroundings he went out and gazed around awhile, pretending to sweep the yard and keeping a sharp watch on the neighboring windows. But the coast was clear, and finally he signaled to his wife to release the prisoner. The door was opened and the chicken sprang into the yard and began stretching its neck to straighten out the kinks Mrs. Hopkins had put in it.

Hopkins still shudders whenever he thinks how near he came to stealing that chicken.—N. Y. Times.

## Cleaning Day in Holland.

But it was generally understood that our models would not pose on Saturday, that day being exclusively devoted to housekeeping within and without. Early in the morning every stick of furniture is carefully rubbed and wiped and taken out of the house. Then the women, with their skirts tucked up, entirely flood the rooms with bucket after bucket of water, brought up from the canal by means of the shoulder-yoke. With broom and brush they souse and scrub the red-tiled floor, and finally pull up a plug in one corner to let the water flow out—let us hope into the canal.

While the floor is drying, a great polishing goes on in the street. Quaint old brass lamps and candlesticks, tobacco boxes and ash trays, huge milk cans—all are burnished until, like golden mirrors, they reflect the red-cheeked, white-capped faces bent over them.

The lacquer man is busy on Saturday. He goes from house to house painting the bread trays and honey-cake boxes with designs of gaudy birds and wondrous leaves and flowers.

The street is in a turmoil until noon, when order is partially restored and the scanty mid-day meal partaken of. In the afternoon washing is resumed. The exteriors of the cottages are scrubbed from roof to pavement and every trace of mould removed, for, in this low, wet air, the green moss gathers quickly. Then the brick pavements are drenched and carefully dried, and I have even seen women slip off their sabots and tiptoe to their doorways in their woolen chaussesons, so as not to soil the immaculate sidewalk.

Lastly, toward evening, the entire village goes to the canal, and all the sabots are washed and whitened with pumice stone, spotless for the morrow. On Saturday evening all the pickets of the low black fences are decorated with rows of dripping footgear, carefully graduated in size from the big wooden shoes of the father down to the tiny sabots of the youngest born.—Mary A. Peixotts in Scribner's.

## Humorous.

A wasp went buzzing to his work,  
And various things did tackle;  
He stung a boy and then a dog,  
Then made a rooster cackle.  
Then on a politician's cheek  
He settled down to drill;  
He prodded there for half an hour,  
And then—he broke his bill.

Sunday-school Teacher—How many commandments are there, Willie?  
Willie—Ten. Sunday-school Teacher—And suppose you were to break one of them? Willie—Then there'd only be nine.

He—The fact is that you women make fools of the men. She—Sometimes, perhaps; but sometimes we don't have to.

She—Why has Boston the name of being such a bad city? He—Because of the number of crooks in the streets, I suppose.

"The longer I live," sighed the sage, "and the more I learn, the more firmly am I convinced that I know absolutely nothing!" "I could have told you that twenty-five years ago," said his wife, "but I knew it would be of no use."

## Elizabeth.

Elizabeth, most fair and sweet  
We know you were, and your slim feet  
Went swift and gladly up and down  
The gabled streets of that old town  
Where you did dwell and (legend saith)  
You did coquette—Elizabeth!

"Elizabeth, her Book," we found.  
Quaintest of volumes, parchment bound,  
Where recipes and rhymes you wrote,  
With now and then a splay note,  
And scarce a page but which upon

Appears some anecdote of "John."  
"John's" eyes were dark. "Breath of the sea

He brought with him."—"To day, to me  
John brought a rose; I vowed I thought  
Its pinkness from the dawn it caught,  
'Its color from your face,' he saith,  
'It stole, my own Elizabeth.'"

John's voyages were long and short,  
You had a gift from every port  
He touched, for his dear heart was true  
To that gray-gabled town—and you  
Who'd love him with your dying breath.  
Oh happy John, Elizabeth!

Elizabeth, each page appears  
Dimmed by a hundred fleeting years,  
In the walled graveyard by the sea  
Where sweet salt winds blow fresh and free—

On your quaint tombstone we descry  
The "Wife of Thomas, here Doth lie  
Leaving Him Lone to Mourn her Death."  
But what of "John," Elizabeth?

—C. V. C. Mathews, in Harper's Bazar.

## Etiquette in Mexico.

Ladies do not attend funerals.

Children kiss the hands of their parents.

The hostess is served first at a Mexican table.

The bridegroom purchases the bride's trousseau.

Female friends kiss on both cheeks when greeting or taking leave.

Gentlemen speak first when passing lady acquaintances on the street.

The sofa is the seat of honor, and a guest waits to be invited to occupy it.

Men and women in the same social circle call each other by their first names.

When a Mexican speaks to you of his home he refers to it as "your house."

When you move into a new locality it is your duty to make the first neighborhood calls.

When friends pass each other on the street without stopping they say adios (good-by).

Cards are sent to friends upon the anniversary of their saint's day and upon New Year's day.

Even the younger children of a family are dressed in mourning upon the death of a relative.

Young ladies never receive calls from young men and are not escorted to entertainments by them.

Daily inquiry is made for a sick friend and cards are left or the name written in a book with the porter.

Dinner calls are not customary, but upon rising from the table the guest thanks his host for the entertainment.

Mexican gentlemen remove their hats as scrupulously upon entering a business office as in a private residence.

After a dance the gentleman returns his partner to her seat beside her parents or chaperon and at once leaves her side.—Modern Mexico.

## How to Boil Water.

"To boil water is the simplest thing in the world," said the steward at one of the leading hotels of Washington, "but how to boil it is quite another thing. I believe we have the name of having the best coffee of any hotel in this city. Of course we use good coffee; but, let me tell you, much of the praise is due to the fact that the water with which to make the coffee has been properly boiled. The secret in boiling water is just this: Always use fresh water and let the kettle be warm before the cold, sparkling fluid is put into it. The fire should be quick, so that the water will boil at once, and the water should be removed from the fire the instant boiling point is reached and poured upon the coffee or tea, or whatever beverage is in demand, immediately. So many people make the mistake of permitting



the kettle to remain over the fire, where the water steams and simmers away, wasting the good water in vapor. Those who drink hot water before breakfast, as many do, should insist on the use of fresh water and have it served as soon as boiled."

Doctors say, however, that to kill germs in suspicious water boiling should last about five minutes.—Washington Post.

### The Canning of Summer Fruits.

The advent of summer, season of plenty, is a busy time for the thrifty and provident housewife, who cheerfully toils to fill her storeroom with

The wealth of summer's mellow prime  
To cheer the dearth of winter's rime.

Of the various ways of preserving fruit for a less bounteous season canning is the simplest and most satisfactory. The fruit requires less cooking than by other methods, and retains, therefore, in a greater degree its natural form and flavor. Canning differs from preserving in the amount of sugar used, and in the time required for cooking. When a large amount of sugar in proportion to the fruit is used, as in preserves, jam or jelly, the sugar assists in the preservation, as the ubiquitous microbe cannot flourish in a heavy solution of sugar. When the fruit is put up in a light syrup, as in canning, the fruit must be thoroughly sterilized by heat and immediately sealed to prevent the growth of germs and consequent fermentation.

Much of the success in canning depends upon the quality of the fruit selected. Fruit for canning should be fresh, perfectly sound, not over-ripe and of superior flavor. It should be thoroughly cleansed but not washed sufficiently to impair the flavor. Seed cherries, plums, peaches and apricots. A few of the removed pits, particularly of peaches, if cooked with the fruit, add greatly to the flavor. Pare peaches, pears and similar fruit with a silver knife and to avoid discoloration, cover with damp napkin to exclude the air. Have all the needed utensils ready and in order and use only granite, silver or earthenware. Iron, brass or tin should never be used because of the acid in the fruit. Large-mouthed glass jars, with glass or porcelain lined covers, are preferable to other kinds; tin cans especially should not be used. The pint jars are more convenient for small families. Examine the jars, both old and new, to make sure there are no defects, and that the covers fit perfectly. Thoroughly cleanse and scald the jars and lid the covers to sterilize them. Renew the rubbers each season, as no matter how good they look, they always deteriorate with usage or age, and it is poor economy to run the risk of spoiling a can of fruit for the small cost of a rubber. Much of the preliminary work, such as gathering and cleansing the needed utensils and jars, may be done the day before, leaving the morning free for preparing and cooking the fruit. The fruit must be thoroughly cooked in order to destroy all the germs in and about the fruit, but over-cooking should be avoided, else the fruit will become softened too much to be palatable and also lose much of its fresh, natural flavor. Especial care must also be given to filling and sealing the jars, which is one of the most important parts of the work. While the fruit is cooking let the jars stand filled with hot water. When the fruit is cooked, empty the water from a jar and fill with the boiling fruit and syrup. Attend to one jar at a time and stand it on a heated plate to catch the drippings while it is being filled. A fruit funnel is convenient in filling the jars. Run a heated silver knife around the inside of the jar to liberate the air bubbles. Fill to the brim with the hot syrup and carefully wipe off all the juice. Dip the rubbers in and out of boiling water and put firmly on the jar; then quickly screw on the cover which, meanwhile, has been standing in boiling water. Screw as tightly as possible, next turn the jar upside down to make sure there is no leakage, then stand right side up in a place free from draught while cooling. As the glass contracts in cooling

the lids will become loose, so it is necessary to screw covers again and again to make sure they are perfectly air tight. The next morning screw the covers as tightly as possible for the last time, invert the jars and if there is no leakage the work may be considered successful. Wrap each jar with thick paper to prevent the light bleaching the fruit, or cover with a brown paper bag which groceries come in and which it is well to save for this purpose. Now label the fruit and stand aside bottom side up in a cool, dry, dark closet. It is well to look after the fruit again in the course of a week, and should any leakage be discovered, use the contents of the jar, as the flavor will be impaired for a second canning. If the directions given are carefully heeded, and the minute details strictly observed, there need be little fear of spoiled fruit.

The several ways of canning fruit are simply variations of two methods. The fruit is cooked either in an open vessel, then transferred to the jars for sealing, or cooked in the jars in which it is sealed.

The usual way of canning is to cook the fruit in an open vessel in a thin syrup. Cook only a small quantity of fruit at a time in the syrup, as by so doing the fruit may be kept more perfect in shape. Allow from one to one and a half cupfuls of sugar to a quart of fruit, according to its tartness. Use very little water for juicy fruits like berries and cherries and cook them only long enough to thoroughly sterilize them. For fruits with very little juice, make a syrup of equal parts of sugar and water. Cook the fruit until tender, but not soft. Hard fruits like quinces and some pears are cooked in boiling water until nearly soft, then put in the syrup to finish cooking; or they may be cooked in clear water until tender, put at once into the jars and the jar filled with boiling syrup. Fill and seal as directed above.

When the fruit is cooked in the jars—and this method is decidedly preferable—pack the fruit, as prepared, into the jars. Pack as closely as possible without mashing the fruit. Fill within half an inch of the top with a syrup made of equal parts of sugar and water for small juicy or acid fruits, or allow a cup and a half of water to a cup of sugar for large fruits like peaches, pears and quinces. Screw on the covers without the rubbers. Stand the jars on a perforated board, slats of wood, muffin rings or a bed of excelsior or hay in the bottom of an ordinary wash boiler and do not let the jars touch each other. If only a few jars at a time are to be canned use a deep saucepan. The fruit must be raised off the bottom of the boiler or saucepan to let the water circulate under and around it and to avoid the danger of breaking. Pour into the boiler sufficient cold or lukewarm water to reach almost to the neck of the jars. Cover the boiler, bring the water to the boiling point and let it boil from ten to twenty minutes. Berries, cherries and plums require about ten minutes boiling; firmer fruits like peaches and pears, should be cooked about twenty minutes or until tender. Lift each jar out carefully, fill to overflow with boiling water, syrup or the contents of another jar, and seal in the usual way.

In canning raspberries, the syrup may be made of equal parts of currant juice and sugar to give a delightful flavor to the canned product.

The method of canning fruit may be greatly simplified by the use of one of the several kinds of patent canners found at leading kitchen furnishing stores, or one can have inexpensive holders made of inch-wide strips of galvanized iron or tin at any tinner's, into which one can stand the fruit jars while boiling and lift them easily from the boiler. The many advantages of this process of canning fruit should cause it to be more generally adopted, although it is difficult to convince old housekeepers—and I regret to add many beginners—that the old way can be improved, simply for the reason that they are used to it. Firstly, it is known beyond contradiction that when fruit is cooked in an open vessel, much of the delightful flavor is lost in the cooking process. Hence this method con-

serves the flavor more perfectly. Then because of the little handling required, the fruit remains almost perfect in shape and the syrup clear and unclouded. In addition there is less and real hard work. Having used this method for some years, personally I am an enthusiast on the subject, and I take much pleasure always in sounding its praises, as well as those of my collection of canned fruits, which are delicious in flavor, covered with a rich syrup which is clear as crystal and tempting in appearance.—What to Eat.

### Hints to Housekeepers.

Laundry irons should be washed with soap and water once in while to remove the accumulation of starch. Dry them thoroughly and rub with paraffine.

A delicate variation of the somewhat coarse dish, beefsteak and onions, is achieved by rolling three or four chopped onions in a beefsteak, tying securely and leaving the beefsteak over night in the icebox. Remove the onions and broil, turning frequently. The onions may be fried separately, if desired, and served as a side dish to those who like them.

A good cold dessert is made by adding to a pint of grated pineapple pulp half a pint of water and half a pound of sugar previously boiled to a syrup with half a cupful of water. Press through a fine sieve, and when cool add the whipped white of an egg. Beat vigorously for a few minutes and set on ice until just before serving. High sherbet glasses may be used for this dessert.

Use the water in which asparagus has been boiled and the tough ends of the stalks for a delicious cream of asparagus soup. Cook the stalks until tender, using the water in which the tender stalks have been boiled, until they are as tender as possible. Press through a colander. Put a quart of milk in a double boiler, and when it is hot add two tablespoonfuls of butter and two of flour rubbed together. Cook until smooth, then add the asparagus pulp and water. Season and serve.

In Mrs. Rorer's new cook book the following recipe for preserving strawberries in the sun is well worth trying if the facilities are at hand: "Put the strawberries into a wire basket, which plunge in a pan of cold water, drain thoroughly and stem carefully without bruising. Weigh the strawberries, and to each pound allow one pound of granulated sugar. Select large stoneware plates, make them very hot either on top of the stove or in the oven. Sprinkle over a layer of the granulated sugar and cover this closely with the berries. Cover with glass and stand in the sun's hottest rays. Move the dish as the sun changes its position. At four o'clock bring them in and stand aside in a closet or cool place. Next day put the berries again in the sun. By this time they will no doubt have become clear—almost transparent—and thoroughly soft, but perfectly whole. Lift each berry carefully with a fork and put into a tumbler or bottle. Boil the syrup over the fire for a few minutes until it thickens, strain, cool and pour it over the fruit. This recipe will answer also for raspberries."

An extra nice dessert is described in Good Housekeeping for June. Cut off the top of a large pineapple and scoop out the pulp with a strong spoon. Chop the pulp finely, rejecting the core of the fruit. Sugar the chopped pulp and set aside for some time. When a cupful of juice can be poured off from it, it is ready to use. Mash a pint of red raspberries, add a fourth of a cupful of water, half a cupful of sugar, and the pineapple juice, and cook the mixture several minutes. Take from the stove, add the juice of a lemon, more sugar if desired, and strain through a cheesecloth. Freeze a quart of cream, which has been whipped and sweetened. When half frozen add the fruit juice and finish the freezing process. Meanwhile trim the bottom of the pineapple shell so that it will stand upright, and thoroughly chill it in the icebox. When

the cream is ready fill the pineapple shell and set it in a deep mould or the freezer can, and let it stand packed in ice and salt for an hour or longer. Send to the table on a round plate covered with a lace doily.

### Domestic Hints.

**PLANKED STEAK.**—Take a thick sirloin, well seasoned. Place on a well-buttered plank, with border of potatoes all around. Set into a hot baking oven until cooked as desired. Then add some good butter and garnish with new vegetables and serve hot.

**PINEAPPLE LEMONADE.**—Pineapple lemonade is refreshing and is prepared with very little trouble. Pare and grate a ripe pineapple; add the juice of four or five lemons and a syrup made by boiling together for a few minutes two cups of sugar and the same quantity of water. Mix and add a quart of water. When quite cold strain and ice. A maraschino cherry in each glass is an addition.

**MASHED POTATOES, MILANAISE.**—Boil the required number of potatoes till done, drain till they are perfectly dry; then mash with a fork till smooth and creamy, moistening during the mashing process with chicken stock. Season with salt and white pepper, and add considerable whipped cream—enough to enable you to beat the potato with an egg beater. Put into a dish, smooth lightly, sprinkle grated parmesan over the top and brown in a rather hot oven.

**RASPBERRY VINEGAR.**—For raspberry vinegar pour one quart of good cider vinegar over two quarts of red raspberries and set aside for two days. Drain off the liquid and pour it over a second two quarts of raspberries. Repeat this process once more, strain carefully and add a pound of sugar to each pint of juice. Boil five minutes and bottle. In serving, allow two-thirds of water and a generous portion of shaved ice to two-thirds of the vinegar.

**GREEN PEAS, PARISIAN STYLE.**—Put three pints of green peas into a saucepan with two ounces of butter, half a dozen branches of parsley tied together, a peeled onion, a pinch of sugar, a little salt, a head of lettuce cut in strips, and half a pint of water. Simmer gently till the peas are done, mix three beaten eggs with three tablespoonfuls of cream, and having removed the parsley and onion, add to the peas, leaving the lettuce in. Mix all well together, and serve.

**LOIN OF LAMB CHOPS MASCOTTE.**—Take three large raw potatoes. Peel and cut them into slices three-quarters of an inch thick. Scoop them out so that they have the shape of a cup or patty, then fry them in hot fat, being careful to cook without breaking. Then have some mixed vegetables—carrots, turnips, peas—cooked in good gravy, with a piece of butter, and fill them into the potatoes. Then have six nice loin of lamb chops dressed in a nice round shape. If the chop don't keep the shape described put a toothpick through the meat. Fry the chops nicely and place them on top of the potatoes and vegetables. Dress the whole on a dish in a ring shape and fill the middle of the dish with braised lettuce or spinach and serve.

### Why Nations Wear Colors.

Did it ever occur to you that the bunch of colored ribbons you wear in your buttonhole—or pinned on your dress if you are a girl—at commencement, or at a baseball or football game, is really a flag? It tells to what class or school or college you belong, or which of these, for the time, has your interest and sympathy. And for somewhat similar reasons do nations wear their colors. At first maybe it was to tell one another apart; but after awhile the colors—the flag—came to represent the nation itself; and the way the people acted toward the nation's flag was supposed to show the way they felt toward the nation.—July St. Nicholas.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, July 15, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	78 3/4 @ 76 1/2	78 @ 76 1/2
Thursday.....	77 @ 78 1/2	76 1/2 @ 77 1/2
Friday.....	78 1/4 @ 79 1/4	77 1/2 @ 78 1/2
Saturday.....	78 1/4 @ 79 1/4	77 1/2 @ 78 1/2
Monday.....	80 @ 78 1/2	78 1/2 @ 79 1/2
Tuesday.....	76 1/2 @ 77 1/2	76 @ 77 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	52 1/2 @ 51 1/4	51 1/2 @ 50 1/4
Thursday.....	51 1/2 @ 52 1/2	50 1/2 @ 51 1/4
Friday.....	51 1/2 @ 52 1/2	51 @ 51 1/4
Saturday.....	51 @ 51 1/2	50 @ 51 1/4
Monday.....	51 1/2 @ 50 1/4	51 1/2 @ 50 1/4
Tuesday.....	49 1/2 @ 51	49 @ 50

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 38 1/2 @ 1 38 1/2	1 40 @ —
Friday.....	1 38 1/2 @ 1 39 1/2	— @ —
Saturday.....	1 39 @ 1 38 1/2	— @ —
Monday.....	1 38 1/2 @ 1 37 1/2	1 40 @ —
Tuesday.....	1 37 1/2 @ 1 39	— @ —
Wednesday.....	1 36 1/2 @ 1 38 1/2	— @ —

### WHEAT.

The firmness noted as existing in the wheat market at date of last review was followed by additional strength later in the week, the option market recording a further advance of fully a cent, but part of the gain in prices of futures was subsequently lost. The spot market, however, continued to show in the main a strong tone, especially for round lots of desirable quality. Shippers bid up to \$1 37 1/2 for No. 1 wheat delivered at Port Costa, and at this price did not succeed in securing any great quantity. This is certainly a good figure for the beginning of the season, enabling sellers to avoid all storage and other expenses incidental to carrying. Wheat is now commanding more money here than in Chicago, which is rarely the case, as the Pacific Coast section is more remote from Europe than the great wheat belt of the middle West, and the cost of transporting from here to importing countries is generally greater than from the Atlantic side. But with California's crop this season much below the normal, and with the supply of ocean tonnage unusually heavy, and far ahead of the requirements, low freight rates outward from this port by sea are prevailing and are likely to rule throughout the season. The latest spot charter for wheat to Europe was at 17s. 9d., usual option as to destination.

California Milling, new.....	1 37 1/2 @ 1 42 1/4
Cal. No 1 shipping, alongside.....	1 35 @ 1 37 1/4
Oregon Club.....	1 32 1/2 @ 1 35
Washington Blue Stem.....	— @ —
Washington Club.....	— @ —
Or quality wheat.....	— @ —

### PRICES OF FUTURES.

On Merchants Exchange prices of futures for No. 1 White wheat per cental for the week were as follows for the options named:

December, 1903, delivery, \$1.37 1/2 @ 1.39 1/2.
May, 1904, delivery, \$1.40 @ —.
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.39 1/2 @ 1.38 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	6s7d @ 6s7 1/2d	6s8 1/2d @ 6s7d
Freight rates.....	— @ 26 1/2s	17 1/2 @ 18 1/2s
Local market.....	\$1 15 @ 1 17 1/4	\$1 35 @ 1 37 1/4

### FLOUR.

Market is without quotable change, and it is not apt to rule materially lower very soon if at any time the current season. Flour has been lately selling at relatively lower figures than wheat, millers making up the difference on the high prices prevailing for mill offal. The mills have started in on new wheat at easier figures than they were compelled to pay for old, but they will be unable to dispose of mill feed, now that stocks are increasing, at the stiff prices realized the past few months.

Superfine, lower grades.....	82 @ 2 65
Superfine, good to choice.....	2 75 @ 3 00
Country grades, extras.....	3 75 @ 4 00
Choice and extra choice.....	4 00 @ 4 25
Fancy brands, jobbing.....	4 25 @ 4 50
Oregon, Bakers' extra.....	3 25 @ 3 75
Washington, Bakers' extra.....	3 25 @ 3 90

### BARLEY.

There has been more purchasing of this cereal in the interior than in this center, and not as much barley was secured in the country as buyers desired. Although prices are on a tolerably high plane for the beginning of the season, and much

better than at corresponding date last year, many farmers are storing, expecting to realize still better values later on. The market is particularly firm for desirable export and brewing grades, the inquiry on shipping and speculative account being decidedly active in the interior. In the option market trading was not very brisk, but values were maintained at a tolerably high range.

Feed, No. 1 to choice new.....	\$1 02 1/4 @ 1 05
Feed, fair to good.....	1 00 @ 1 02 1/4
Brewing, No. 1 to choice new.....	1 07 1/4 @ 1 15
Chevalier, No. 1 to choice.....	— @ —
Chevalier, common to fair.....	— @ —

### OATS.

The Government has purchased 2,000 tons of Reds, 1,000 tons at \$1.40, 500 tons at \$1.35, and 500 tons at \$1.34, all to be choice and double sacked. Market is moderately firm, partly in sympathy with the strong tone prevailing for most other cereals. While there is not much speculative inquiry, there is a very fair demand for actual needs. Inquiry is mainly for good to choice oats, and for these the market shows the most firmness. The proportion of high-grade oats in present offerings is decidedly light.

White Oats, fancy feed.....	1 30 @ 1 32 1/4
White, good to choice.....	1 25 @ 1 30
White, poor to fair.....	1 17 1/4 @ 1 22 1/4
Gray, common to choice.....	— @ —
Milling.....	1 20 @ 1 22 1/4
Surprise, good to choice.....	1 25 @ 1 32 1/4
Black Russian.....	1 10 @ 1 17 1/4
New Red.....	1 12 1/2 @ 1 25

### CORN.

Market remains unfavorable to buyers, and is not apt to soon show any material change in this regard. There is not much arriving or offering from any quarter. Spot stocks are of too small value to admit of any heavy transactions.

Large White, good to choice.....	1 37 1/2 @ 1 42 1/4
Large Yellow.....	1 40 @ 1 45
Small Yellow.....	1 50 @ 1 55
Eastern, in bulk.....	— @ —

### RYE.

Buyers and sellers are apart in their views. Shippers are talking less than quotations, but are not securing any rye at the lower figures.

Good to choice, new.....	1 05 @ 1 10
--------------------------	-------------

### BUCKWHEAT.

Market is practically bare of offerings. Values remain nominally as last noted.

Good to choice.....	1 65 @ 1 80
---------------------	-------------

### BEANS.

The movement is not brisk, nor is it likely to be during the balance of the season. Most buyers are confining their purchases to immediate needs, not caring to stock up with old beans at higher figures than are expected to rule for new crop in about sixty or ninety days. Stocks now here are principally Large Whites. There are moderate quantities of Bayos and Pinks, but few of any other variety of colored. Limas and Black-eyes continue to be offered rather freely from southern coast points, and at decidedly easy figures, as compared with values current early in the season. A San Francisco firm heavily interested in Limas made an assignment last week to its creditors.

Pea, fair to good, 100 lbs.....	3 25 @ 3 50
Small White, good to choice.....	3 15 @ 3 25
Large White.....	2 90 @ 3 00
Pinks.....	2 90 @ 3 00
Bayos, good to choice.....	3 65 @ 3 80
Reds.....	2 90 @ 3 00
Red Kidney.....	— @ —
Limas, good to choice.....	3 45 @ 3 60
Black-eye Beans.....	2 65 @ 3 00
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Market is exceedingly quiet. Offerings and demand are both of a light order. New crop peas are expected on market in quotable quantity at an early day. Values remain nominally as last noted. Buyers are expecting easier prices for Niles peas as soon as new begin to arrive.

Green Peas, California.....	1 60 @ 1 75
Niles Peas.....	2 25 @ —

### HOPS.

Market shows unsettled condition, with values at the moment poorly defined. As the new season is near at hand, buyers are holding off as much as possible. It is said some holders in the Northern pool have withdrawn from the combination and have made sharp cuts in asking figures. It is also reported that some dealers who were long on the market did all they could to effect the combination among growers, so that these dealers might be enabled to unload to better advantage than they possibly could have done without the combination. Eastern advices by mail of recent date report as follows: "We have had a week of warm and much more favorable weather, but as yet it has had no appreciable effect upon trade. Brewers have gone through a long dull period and are not in humor to buy much stock at present. The quietness of trade, coupled with somewhat improved prospects for the crop, have tended to soften the tone a little more and most grades of

both State and Pacific coast hops can be bought 1/2c cheaper than last week. Holders are not forcing sales, however, and it is largely a waiting market. A few lots of State hops have been purchased in the interior at 18@20c and growers seem disposed to close out the few remaining lots. The growing crop looks better under more favorable weather conditions. English advices still report some vermin, but whether there will be serious damage to the crop cannot be predicted at the present writing. Reports from Germany are very favorable."

California, good to choice, 1902 crop.....	17 1/4 @ 20
--	-------------

### WOOL.

Most of the spring clip has been disposed of. The market is decidedly quiet, with every prospect of so continuing until Fall clip begins to come forward in noteworthy quantity. Moderate arrivals of Fall wool are expected in a few weeks. In quotations for spring clip there no changes to record, but values are largely nominal at this date.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

Lambs, Northern.....	13 @ 14
Lambs, Southern and San Joaquin.....	9 @ 12 1/4

### HAY AND STRAW.

Market for hay has presented a rather easy tone since last review, especially for other than most select qualities. Arrivals were of tolerably large volume, the bulk of offerings being common to medium grades. Straw was not offered in great quantity, but sold at a wide range, with market decidedly firm for strictly choice.

Wheat, good to choice.....	9 50 @ 12 50
Wheat and Oat.....	9 50 @ 12 00
Tame Oat, good to choice.....	9 50 @ 11 00
Wild Oat, fair to good.....	8 50 @ 10 00
Barley.....	8 00 @ 10 50
Clover.....	8 00 @ 10 00
Alfalfa.....	8 00 @ 10 00
Compressed.....	10 00 @ 12 50
Straw, 1/2 bale.....	40 @ 60

### MILLSTUFFS.

There have been no pronounced changes in quotable values for Bran and Middlings, but prospects of lower prices soon. Rolled Barley ruled steady at last quoted advance. Market for Milled Corn is very firm.

Bran, 1/2 ton.....	24 00 @ 25 00
Middlings.....	26 10 @ 28 00
Shorts, Oregon.....	24 50 @ 25 50
Barley, Rolled.....	22 00 @ 23 00
Commeal.....	29 00 @ 30 00
Cracked Corn.....	30 00 @ 31 00

### SEEDS.

Little doing in this department, and of most kinds herewith quoted there is not enough offering to permit of noteworthy trading. About the only exception is in Yellow Mustard, of which there is considerable offering to arrive. In quotable values there are no changes to note.

Alfalfa, Utah.....	Per cwt. — @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 00 @ 2 25
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

Canary.....	Per lb. 5 @ 5 1/2
Rape.....	1 1/4 @ 2 1/4
Hemp.....	3 1/4 @ 4

### HONEY.

Stocks of Comb honey continue light, and market for choice to select is moderately firm, there being fair inquiry on local account. Supplies of Extracted are on the increase. Some transfers of white liquid were made the past week at 5@5 1/2c from first hands, the honey going at the higher figure being of exceptionally fine quality.

Extracted, White Liquid.....	5 1/4 @ 5 1/2
Extracted, Light Amber.....	4 1/2 @ 5
Extracted, Amber.....	3 1/4 @ 4 1/4
Extracted, Dark Amber.....	3 1/4 @ 4
White Comb, 1-lb frames.....	11 @ 12
Amber Comb.....	8 @ 10
Dark Comb.....	7 @ 7 1/4

### BEESWAX.

Only small quantities arriving. Offerings are not neglected, market being firm at the quotations.

Good to choice, light 1/2 lb.....	27 1/4 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Market for Beef shows no special change, demand and supplies about balancing and values ruling steady. Mutton is offering in sufficient quantity for current requirements, quotable values remaining about as last noted, but market has an easy tone. There are no excessive supplies of either Veal or Lamb, and for choice of both kinds current values are being well maintained. Hogs were not in large receipt and medium size in fine condition met with a strong market, this description being most actively sought after.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	6 @ 6 1/4
Beef, 3rd quality.....	5 1/2 @ 6
Mutton—ewes, 8@8 1/2; wethers.....	8 @ 9
Hogs, hard grain, 150 to 250 lbs.....	6 1/4 @ 6 1/2
Hogs, large hard, over 250 lbs.....	6 @ 6 1/2
Hogs, small, fat.....	6 @ 6 1/4
Veal, small, 1/2 lb.....	9 @ 10
Lamb, Spring, 1/2 lb.....	10 @ —

### HIDES, PELTS AND TALLOW.

Business in this department is of fair volume and at generally unchanged values. There are no special accumulations of any description.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	— @ 10 1/4	— @ 9
Medium Steers, 48 to 56 lbs.....	— @ 9 1/4	— @ 8
Light Steers, under 48 lbs.....	— @ 8 1/4	— @ 7 1/4
Heavy Cow Hides, over 50 lbs.....	— @ 8 1/4	— @ 7 1/4
Light Cow Hides, under 50 lbs.....	— @ 8 1/4	— @ 7 1/4
Stags.....	— @ 8 1/4	— @ 7 1/4
Wet Salted Kip.....	— @ 8 1/4	— @ 7 1/4
Wet Salted Veal.....	— @ 10	— @ 9
Wet Salted Calf.....	— @ 10 1/4	— @ 9 1/4
Dry Hides.....	— @ 17	— @ 16
Dry Kip and Veal, 11 to 16 lbs.....	— @ 14	— @ 12 1/2
Dry Calf, under 4 lbs.....	— @ 19	— @ 17 1/2
Pelts, long wool, 1/2 skin.....	1 00 @ 1 50	
Pelts, medium, 1/2 skin.....	70 @ 90	
Pelts, short wool, 1/2 skin.....	40 @ 65	
Pelts, shearing, 1/2 skin.....	15 @ 30	
Horse Hides, salted, large prime, each.....	3 00	
Horse Hides, salted, medium.....	2 50	
Horse Hides, salted, small.....	2 00	
Horse Hides, dry, large.....	1 75	
Horse Hides, dry, medium.....	1 50	
Horse Hides, dry, small.....	1 25	
Tallow, good quality.....	5 1/2 @ 6 1/4	
Tallow, poorer grades.....	5 @ 5 1/4	

### BAGS AND BAGGING.

Market for Grain Bags is decidedly favorable to the buyer, prices this season being about the lowest ever recorded. Fruit Sacks are in fairly active request, quotable values for the same showing no change.

Fruit Sacks, cotton.....	6 1/4 @ 6 1/4
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	4 1/2 @ 5
Grain Bags, Calcutta, buyer June-July.....	— @ —
Grain Bags, San Quentin, in lots of 2,000, 100.....	5 55 @ —
Wool Sacks, 4-lb.....	35 @ —
Wool Sacks, 3 1/2-lb.....	32 @ —

### POULTRY.

Demand was mainly for chickens, and offerings in prime to choice condition met, as a rule, with tolerably prompt custom at practically the same range of values as in force the previous week. Turkeys were in too light receipt and in too light request to be quotable. Ducks and Geese did not receive much attention, but fortunately for sellers not many arrived. Pigeons sold at generally unchanged rates, with demand only moderate. Market for chickens at the close was slow weak.

Hens, California, 1/2 dozen.....	4 50 @ 5 50
Roosters, old.....	4 00 @ 5 00
Roosters, young (full-grown).....	7 50 @ 9 00
Fryers.....	4 50 @ 6 00
Broilers, large.....	3 50 @ 4 00
Broilers, small to medium.....	2 50 @ 3 00
Ducks, old, 1/2 dozen.....	3 00 @ 4 00
Ducks, young, 1/2 dozen.....	3 50 @ 4 50
Geese, 1/2 pair.....	1 00 @ 1 50
Goosings, 1/2 pair.....	1 00 @ 1 50
Pigeons, old, 1/2 dozen.....	1 50 @ 1 75
Pigeons, young.....	1 50 @ 1 75

### BUTTER.

Market has shown little change since last issue. Strictly choice to select fresh is not in heavy receipt. Favorite marks of creamery squares are commanding 27c in a limited way. Only for high grade fresh, however, does the market show firmness. Defective qualities of fresh are brought into competition with packed butter, more particularly Eastern, of which there is considerable offering, spot and to arrive.

Creamery, extras, 1/2 lb.....	26 @ —
Creamery, firsts.....	25 @ —
Dairy, select.....	25 @ —
Dairy, firsts.....	24 @ —
Dairy, seconds.....	22 @ 23
Firkin, good to choice.....	— @ 19
Mixed Store.....	17 1/2 @ 18
Pickled Roll.....	— @ —

### CHEESE.

Values are being well maintained at the advanced range quoted, stocks of domestic product being light and demand fair. Prices are now on a higher plane here than in the East or Middle West. There are comparatively liberal stocks of imported and more offering to arrive.

California, fancy flat, new.....	13 @ —
California, good to choice.....	12 1/2 @ 12
California, "Young Americas".....	13 @ 14

### EGGS.

There was a sharp advance in prices of choice to select fresh, compelling retailers to charge 30c. The upward movement is largely in the interest of cold storage holdings and of Eastern eggs. Standard Eastern from Kansas and Nebraska were offering this week in a jobbing way at 18@20c, and were obtainable in carload lots at a cent lower range. Some of the largest consumers are now giving imported the preference at the lower figures.

California, select, large, white and fresh.....	25 @ 24
California, select, irregular color & size.....	22 1/2 @ 24
California, good to choice store.....	18 @ 21

### VEGETABLES.

While the market was tolerably well supplied with the varieties now in season,



and presented a generally easy tone, the proportion of offerings of choice to select qualities was not heavy. Some exceptionally fine stock brought higher figures than were warranted as regular quotations. Tomatoes, Green Corn and Peppers were all in fairly liberal receipt. Egg Plant is now selling mainly by the box. Offerings of Onions were sufficiently large to give buyers the advantage.

Asparagus, box	1 25	@ 2 25
Beans, Lima, lb	7	@ 9
Beans, String, lb	2 1/4	@ 4
Cabbage, choice garden, 100 lbs.	75	@ 1 00
Corn, Green, crate	1 00	@ 1 25
Corn, Green, sack	75	@ 1 25
Cucumbers, large box	75	@ 1 25
Egg Plant, box	1 00	@ 1 50
Garlic, lb	2	@ 3
Mushrooms, lb	—	@ —
Onions, new Yellow Danver, ctn	60	@ 75
Onions, new Red, sack	35	@ 50
Okra, Green, lb	12 1/2	@ 15
Peas, Sweet Garden, lb	3	@ 4
Peas, good to choice, sack	1 25	@ 1 75
Peppers, Green Chile, box	75	@ 1 25
Peppers, Bell, box	75	@ 1 25
Rhubarb, box	—	@ —
Summer Squash, large box	1 00	@ 1 25
Tomatoes, crate	65	@ 75

POTATOES.

The market for new potatoes has not ruled very steady since last review. Arrivals were not particularly heavy but were ahead of the requirements. There was fair inquiry from Northern coast points and local demand was about up to the average. There were further tolerably heavy receipts of old Oregon Burbanks which had been mostly placed prior arrival.

River Burbanks	70	@ 1 00
River Reds, ctn	—	@ —
Garnet Chile	1 00	@ 1 15
Early Rose	70	@ 1 00
Old Oregon Burbanks	1 35	@ 1 50
New Potatoes, in boxes, per cental	1 15	@ 1 50

The Fruit Market.

Arrivals could not be termed heavy for this time of year, and it was the exception where the market showed weakness for choice to select fruit. Gravenstein Apples are beginning to arrive, and such as show first class condition and are desirable for shipment are meeting with a firm market, some in 4-tier boxes being taken for Nome at \$1.50 per box. Apricot market ruled decidedly firm for desirable shipping and canning stock. Choice Yellow in bulk were quotable up to \$35 per ton ex-wharf or cars. Bartlett Pears were in fair receipt, but were mostly green windfalls, and these brought tolerably good prices, quality considered. Choice Bartletts were salable at an advance on quotations, and there is every indication that this description will meet with a stiff market throughout the season. Peaches sold at fully as high range as previous week, with market firm for best qualities, there being no excess of offerings of this sort. Plums and Prunes make a fairly liberal display, prices averaging a little lower than previous week, but it is not likely that the market will be seriously burdened with desirable qualities of these fruits this season. Seedless Grapes were lower. Black Grapes put in an appearance in small quantity and sold to very fair advantage. Three carloads of Fresno Watermelons arrived Monday, the first of the season from that section, and there were further receipts from same source yesterday and to-day. Cantaloupes and Nutmeg Melons were in increased supply. All melons sold at a lower range of prices than last quoted. Berries were not in heavy receipt, but market was without special improvement, the demand being rather light.

Apples, fancy, 4-tier box	—	@ —
Apples, good to choice, 50-box	1 00	@ 1 25
Apples, common to fair, 50-box	50	@ 75
Apricots, crate	40	@ 85
Blackberries, chest	2 50	@ 4 00
Cantaloupes, crate	1 50	@ 3 00
Cherries, Black, in bulk, lb	5	@ 8
Cherries, Black, good to choice, box	50	@ 85
Cherries, Royal Anne, lb	4	@ 7
Cherries, Royal Anne, box	50	@ 75
Flgs, Black, 2 layer, box	30	@ 50
Flgs, Black, 1 layer, box	15	@ 25
Flgs, White, box	25	@ 40
Gooseberries, common, lb	—	@ —
Gooseberries, English, lb	—	@ —
Grapes, Black, crate	50	@ 1 00
Grapes, Seedless Sultana, crate	50	@ 75
Loganberries, chest	2 00	@ 3 00
Nutmeg Melons, crate	1 25	@ 1 75
Peaches, box	40	@ 75
Pears, Bartlett, box	75	@ 1 25
Pears, other varieties, box	50	@ 1 00
Plums, good to choice, box	40	@ 75
Prunes, Tragedy, box	40	@ 60
Raspberries, chest	4 50	@ 6 00
Strawberries, Longworth, chest	4 00	@ 7 00
Strawberries, Melinda, chest	3 00	@ 3 50
Watermelons, Coacella, piece	10	@ 35
Watermelons, Fresno, doz	1 75	@ 3 50

DRIED FRUITS.

Seldom has the market for cured and evaporated fruits shown a more healthy condition at this time of year than at present. Stocks of old are now light, leaving quotations for the same largely nominal. Especially is the case as regards varieties other than Prunes and Peaches. These are not in very heavy evidence and are apt to be in quite light stock, if not wholly wiped out, before new crop dried fruit of the varieties named appears on the

market in quotable quantity. Considerable business has been done in new crop Apricots, mainly at 7 1/2 @ 8c for choice Royals in sacks in carload lots at primary points. Some growers are, however, asking higher figures. Transactions in new crop Prunes, so far as reported, continue to be on the 2 1/2 @ 3c basis for the four sizes in sacks, October delivery, the outside figure for Santa Claras. In other dried fruit of coming crop there is no evidence of anything doing in futures, producers generally being unwilling to contract or contending for higher prices than are obtainable at this date. The first car of dried Apricots of the current season is reported to have arrived at Omaha July 7, the quality being fine and above the average for initial shipments. The Eastern outlook is for an unusually good demand for California dried fruits this season and for the realization of prices above the average of recent years.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice	4 1/4	@ 4 3/4
Apples, extra choice to fancy, 50-lb box	5	@ 5 1/4
Apricots, Moorpark	8 1/2	@ 9 1/2
Apricots, Royal, good to choice, lb	7	@ 7 1/2
Apricots, Royal, fancy	8	@ —
Flgs, 10-lb box, 1-lb cartons	65	@ 75
Nectarines, lb	3 1/4	@ 4
Peaches, unpeeled, fair to good	3 1/4	@ 4 1/4
Peaches, unpeeled, choice	4 1/4	@ 4 3/4
Peaches, unpeeled, fancy	5	@ 6
Peaches, unpeeled, extra fancy	7	@ 7 1/4
Pears, halves, fancy	8	@ 9
Pears, halves, choice	5 1/2	@ 6
Pears, halves, fair to good	4 1/2	@ 5
Plums, Black, pitted	4 1/2	@ 5
Plums, Red and Yellow	5	@ 5 1/4
Prunes, Silver, good to fancy	4	@ 4 1/4
Prunes, in bags, 4 sizes, 2 1/2 @ 2 1/4; 40-50s, 5 1/4 @ 5 1/2 c; 50-60s, 4 1/4 @ 4 1/2 c; 60-70s, 3 @ 3 1/4 c; 70-80s, 2 1/2 @ 2 3/4 c; 80-90s, 2 @ 2 1/4 c; 90-100s, 1 1/2 @ 1 3/4 c; small, 1 1/4 @ 1 1/2 c.	—	@ —

COMMON SUN-DRIED.

Apples, sliced	3 1/4	@ 3 3/4
Apples, quartered	3 1/4	@ 3 3/4
Flgs, White, in bulk	5	@ 5 1/4
Flgs, Black, in sacks, lb	4 1/2	@ 5
Plums, unpitted, lb	1 1/4	@ 2

RAISINS.

There has been a moderate movement in raisins, mainly on Eastern account and at generally unchanged values. Stocks throughout the country are light and market shows healthy condition.

Prices at common shipping points, crop of 1902: 2-crown London Layers, 20-lb boxes, \$1.10 per box; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Dehesas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, lb, 4-crown, 5 1/2 c; 3-crown, 5 1/4 c; 2-crown, 5c.

CITRUS FRUITS.

Oranges are in slim supply and are meeting with little attention, as is to be expected at this date. Lemons are in fair demand and values for best qualities are being well maintained at the quoted range. Limes are ruling steady, spot supplies not being very heavy.

Oranges, Washington Navel, box	1 50	@ 2 75
Oranges, Valencia, box	1 25	@ 2 75
Oranges, Mediterranean Sweets	1 00	@ 1 50
Lemons, California, select, box	2 75	@ 3 00
Lemons, California, good to choice	2 25	@ 2 50
Lemons, California, fair to good	1 25	@ 2 25
Grape Fruit, box	75	@ 1 75
Limes, Mexican, box	5 50	@ 6 00

NUTS.

Market quiet throughout. The Contra Costa Almond Growers' Association has called for bids to be opened on Saturday, the 18th inst., on a crop of about 170 tons, including 54 tons of I X L, 49 tons of Ne Plus Ultra and 23 tons of Non Pareil. Walnut market is firm; stocks of last crop practically exhausted.

California Almonds, shelled	16	@ 20
California Almonds, paper shell	11	@ 12
California Almonds, soft shell	8	@ 10
California Almonds, hard shell	5	@ 5 1/2
Peanuts, California, fair to prime	4 1/2	@ 5 1/2
Peanuts, Eastern, hand-picked	5 1/4	@ 6 1/2
Walnuts, White, soft shell	—	@ —
Walnuts, White, standard	—	@ —

WINE.

A meeting of viticulturists of all the dry wine producing sections of the State has been called to meet at St. Helena on Saturday, August 15, which will be addressed by Congressman Bell, the purpose of the meeting being to induce national legislation to prevent the lowering of the standard of California wines through the introduction of sugar, which has been lately resorted to by some large manufacturers and dealers, thus increasing the output and making a cheaper as well as a poorer wine. Efforts should be made to have

our wines of the highest standard possible. All dry wine growers who can conveniently attend the meeting should do so.

The market continues exceedingly quiet and is easy in tone. Dry wines of last vintage are obtainable down to 16c per gallon in wholesale quantity from first hands, the quotable range for round lots being 16 @ 18c, selections selling in a small way at a little higher range. Shipments for the week include 61,486 gallons and 105 cases per steamer San Juan on Saturday last, the bulk of the above, 58,867 gallons, being for New York. Receipts of wine at San Francisco last week aggregated 347,320 gallons, and for preceding week were 274,700 gallon.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time, the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.	82,943	112,252
Wheat, ctns.	10,255	13,755
Barley, ctns.	31,242	37,332
Oats, ctns.	7,568	10,848
Corn, ctns.	900	1,570
Rye, ctns.	—	265
Beans, sks.	639	975
Potatoes, sks.	17,346	22,714
Onions, sks.	3,035	3,683
Hay, tons	4,339	5,756
Wool, bales	499	720
Hops, bales	—	—

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.	43,040	43,656
Wheat, ctns.	500	670
Barley, ctns.	5,022	7,906
Oats, ctns.	432	468
Corn, ctns.	373	717
Beans, sks.	481	570
Hay, bales	1,562	2,421
Wool, lbs.	132,002	137,002
Hops, lbs.	1,290	2,373
Honey, cases	10	15
Potatoes, pkgs.	2,755	3,614

An Essay on Ants.

TO THE EDITOR:—I see that you recommend trapping ants with a bone. This is the first time I saw this recommended; however there may be more in it than one would at first think. I will give you a little of my experience in this line, which I probably never would have thought of if I had not seen your article.

Last spring I was bothered with ants and had been fighting them in different ways. They insisted on staying with me. One day an old man came in and asked for something to eat. I gave him some cold boiled beef. As he was eating I saw him throw a grisley piece over against the wall, and thought when he got through I would throw it out, but forgot it, and when I thought of it I looked for it, but could see no bone for the ants on it. It looked like a big pile of ants, they were so thick. I laid near the front door. They had a trail from there to the corner of the room, which was 16 feet square, thence along the wall to the other corner, thence across the room to the other corner, where they passed out, always keeping close to the wall. I concluded to scald them, thinking I would get the big bunch and then follow up the trail and murder the rest. I got a teakettle of boiling water and scalded the bunch, but when I started along the trail they all left it and scattered in every direction, as if they all knew what had happened, but I followed up and got a great many of them. I have not been bothered with them since. I never once thought that I had run them off, simply that they had left the premises. I would like to hear

from Oakland subscriber after he has tried it.

I will give recipe or two which may be worth trying: A strong solution of carbolic acid and water poured into their holes kills all the ants it touches, and the survivors immediately take themselves off. Ants that frequent houses or gardens may be destroyed by taking flour of brimstone, half pound, and potash, four ounces. Set them in an iron or earthen pan over the fire until dissolved and united. Afterwards beat them to a powder and infuse a little of this powder in water, and wherever you sprinkle it the ants will die or leave the place.

After picking up a copy of the PACIFIC RURAL PRESS I see that the Oakland subscriber's trouble was with little red ants, so I will give recipe for them just as I have it: Red ants may be banished from pantry or storeroom by strewing the shelves with a small quantity of cloves, either whole or ground. The cloves should be renewed occasionally, as after a time they lose their strength.

Can any one give remedy to drive fleas from the barnyard?

Redding.

SUBSCRIBER.

**Horse Owners! Use**  
GOMBAULT'S  
**Caustic Balsam**  
A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
**THE LAWRENCE-WILLIAMS CO., Cleveland O.**

**W. A. PLUMMER,**  
Importer and Manufacturer of  
**GRAIN BAGS,**  
Twines,  
TENTS, AWNINGS AND WAGON COVERS.  
111 CLAY STREET,  
San Francisco, Cal.

**MALTHOID ROOFING**  
Made of felt, thoroughly saturated with P & B compound. Not impaired by varying temperatures. Does not evaporate, crack, expand or contract. A low priced roofing that cannot be equaled. Send for booklet.  
**The Paraffine Paint Co.**  
5 San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

**Hercules Gasoline Engines**  
**FOR**  
PUMPING WATER, CUTTING ENSILAGE, SHELLING CORN, SAWING WOOD, CLEANING GRAIN, RUNNING SEPARATOR, Etc.  
Complete Pumping Plants Furnished  
SEND FOR SPECIAL QUOTATIONS.  
**Baker & Hamilton,**  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

Telephone Main 199.  
**Blake, Moffitt & Towne,**  
DEALERS IN PAPER,  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, MOFFATT & CO., Portland, Or.  
**DEWEY, STRONG & CO.,**  
San Francisco, Cal., and Washington, D. C.



## \$5,000 Reward.



Anybody can secure that amount who will prove that any letter or endorsement which we publish in any way, relative to the merits of

### Tuttle's Elixir

is spurious or untruthful. It needs nothing but the truth to support it. It is undoubtedly the best veterinary remedy known to man.

Used and Endorsed by Adams Express Company.

**Tuttle's American Condition Powders**—A specific for impure blood and all diseases arising therefrom. **TUTTLE'S FAMILY ELIXIR** cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Elixir Co., FREE. **Tuttle's Elixir Co., 88 Beverly St., Boston, Mass.** 487 O'Farrell St., San Francisco, Cal. Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.

## THE VETERINARIAN.

### Answers to Inquiries.

By E. J. CREELEY, D. V. S., Dean of S. F. Veterinary College, 510 Golden Gate Avenue.

### TREATMENT FOR UDDER.

TO THE EDITOR:—My cow calved June 17th and we commenced to use the milk after the ninth milking. It was all right for a few days, and then we noticed a little blood in the bottom of the pan after standing over night; the last two or three days there is quite a little blood in the bottom of the pans. The calf has sucked one-half of the milk since birth. The cow is well, had no trouble in calving and to all appearances is sound in every way.—MRS. LIZZIE HALL, Wrights.

Milk each teat separately to find which gland is affected. Use the milk from the glands not affected. Inject one-half water and one-half pyrozone in the teat from which the bloody milk comes. Inject two times daily until cured.

### FOR A SUPPURATING WOUND.

TO THE EDITOR:—I have a mare that was cut on barb wire May 12th on the hind foot between the hoof and fetlock. The cut almost healed. About a week ago swelling commenced above the hoof, extending to the knee. It seems now as though it would break just above the hoof. What is best to be done for her?—A. L. Low, Laton, Fresno Co., Cal.

Use flaxseed poultice two times daily in which has been placed two table-spoons of lysol. After a few days lance at the most prominent and softest part of the swelling, after which wash out with carbolic water and apply zinc ointment. Tincture of iodine applied over the entire swollen surface once daily would stimulate absorption.

### Treating Ants in Their Nests.

TO THE EDITOR:—I wish to suggest to your East Oakland subscriber, in regard to ants, that they worried me for years in the Sierra foothills. I tried everything I could hear of, without avail. I had three different kinds, the small red ones being unconquerable, until I traced them to their nest, and either poured coal oil and fired it, or, if too close to the house, a pint or two of gasoline did the work.

MRS. J. J. STUBBS.

### French Camp.

Yes; this is a good way if you can find the holes in the ground where they are domiciled. In towns, however, it is more difficult to do so than in the country. The nests are often out of reach, under the houses or in some other un-attainable nook.

### ANOTHER PRESCRIPTION.

TO THE EDITOR:—I have been successful in getting rid of ants in the house by using tartar emetic and sugar in equal quantities, thoroughly mixed and scattered on shelves and floors. Hunt for the nests or colonies, saturate the ground where their homes are and you will soon clear the premises if you do the work thoroughly.

MRS. B. C. WEYMOUTH.

Fresno, Cal.

## CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO., 826 Montgomery St., San Francisco. G 325 Dearborn St., Chicago. G 338 So. Broadway, Los Angeles.

## THE RANGE.

California the Outlet for Arizona Cattle.

"Cattle this year are late; it is a great detriment to the California market that such is the case." This statement is made by William E. Henry of San Jose, while in Los Angeles lately, to a reporter for the Express. He was on his way to Kern county, where he will round up a large herd of cattle for the market. Mr. Henry has recently arrived from Arizona, where he purchased nearly a thousand head of beeves for his big range in Kern county. In speaking of the condition of the California trade he says:

"If it were not for the California market for Arizona and New Mexico cattle, business in live stock in those two States would be an utter failure. It has been tried several times to manipulate successfully the Chicago and Kansas City markets, but the cattle kings invariably have come out of the deal losers. Again, a decided effort has been made on the part of the cattle exporters of Arizona and New Mexico to supply the Eastern markets with the best stock that it was possible to put there, and to get good prices, but here again they were the losers.

"Why should dealers in any business put cattle upon the market for any length of time if they cannot get good prices for their stock? That is just the position the cattlemen of the Southwest are placed in. The Eastern markets will not offer even decent prices for cattle. They would rather pay lower prices for poor stock. Here in California the cattle dealers are willing to pay good prices for the stock and do pay it without a grumble. Cattle that sell for \$20 a head in Chicago and New York will bring \$28 in California. So it can be seen that the cattlemen would prefer to put their stock upon the California market.

"Conditions in California this year are excellent, but again, we are offset in good prices because cattle from the North will begin to arrive at about the same time the Southwestern stock is ready for the market. Cattle never were in better shape than they are this year, and ought by all means to bring the owners a good price. For many years the price of cattle has been up to a rather high notch, and it is feared by most of the leading cattle kings that a slight fall will be experienced this summer and fall. Cattle all over the country are in the best of condition.

"Feeding grounds in southern and central California are in good condition and the local stock is the best that has been raised for many years. Importation of Australian cattle this year will not be worth mentioning. In Arizona stockmen are satisfied; ranges were never looking finer and the cattle are roaming around the country in great numbers."

### Uses of Solar Heat.

Mr. Charles H. Pope, now of 221 Columbus avenue, Boston, and formerly a resident of Oakland, Cal., has published a very interesting book entitled "Solar Heat: Its Practical Applications."

The book first displays the various devices to catch the sun which have been tried since the days of Archimedes in many lands; shows how they failed or succeeded and why; gives pictures of some of the apparatus used, with the inventor's own descriptions, bringing his history down to the brilliant achievements of Mouchot in France and the Pasadena pumping engine in California.

Then he takes up the matter "technically," and talks about the reception, the reflection, the refraction and the application of the heat of the sun in familiar fashion; and the high school boy will be able to catch the notion, and get up some apparatus that will prove the statements of the book, and prepare the way for anything that sensible manufacturers may offer. The book deserves to become popular in California, Arizona, Nevada, Colorado or New Mexico, because in all those States there is sun heat to burn.

## Removal Notice

—OF—

The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

OUR SPECIALTY IS

## CUTTER'S BLACK LEG VACCINE.

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## JUNIOR MONARCH HAY PRESSES.

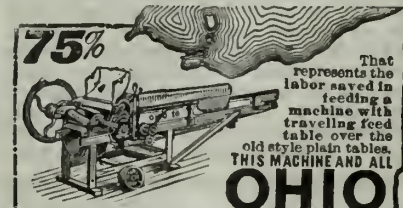


Standard and 3/4 Bale Sizes.

Manufactured and for Sale by

L. C. MOREHOUSE.

WM. H. GRAY, Agent, San Leandro, Cal.



FEED AND ENSILAGE CUTTERS

are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful

Direct Blast Blower Elevator.

SEND FOR "A Book on Silage"

BY PROF. F. W. WOLL

AN ACRE OF CORN

and its possibilities.

Gen'l Agts.

HOOKER & CO.

16-18 Drumm St.

SAN FRANCISCO

Price, 10c in stamps

PRINTING. We furnish all stock and do printing at the following prices: 100 envelopes 40 cts., 500 \$1.25, 1000 \$1.75. Bill heads, note heads, cards, tags, etc. at same price. Samples of work free. Pacific Commercial Co., 325 Davis St., San Francisco, Cal.

## Free Books for Farmers

These books are compiled from the publications of the various Agricultural Experiment Stations, and are of great value to all practical farmers.

We mail them free to all farmers who apply for them.

GERMAN KALI WORKS,  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

## THE "BOSS" TREE PROTECTOR.

Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

### PRICES:

12 inches long,	\$ 9.00 per 1000.
14 "	10.00 "
16 "	11.50 "
18 "	12.50 "
24 "	15.00 "
30 "	17.50 "

Agents Wanted  
Everywhere.

YUCCA MANUFACTURING CO.,  
450 SANTA FE AVE., LOS ANGELES, CAL.

JOHN A. YEATMAN & CO.

13 FIRST STREET SAN FRANCISCO CAL.

## IRRIGATORS ATTENTION!

WE MANUFACTURE

## ECLIPSE Centrifugal Pumps

AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.

Send for Folder.

# PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

## DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

PATENT AGENTS,

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.



## FRUIT MARKETING.

## European Crops and Prices.

Consular Reports received by the PACIFIC RURAL PRESS through the State Horticultural Commissioner.

## ALMOND CROP OF ITALY AND SPAIN.

The blossoming in February and March was very favorable and promised a very large crop, but stormy weather and frost during April, when usually no harm is expected, caused much damage to the fruit, but prospects are still good for a fair yield.

Conditions and prospects are much more favorable this year than last and the crop will not fall much short of an average one.

The crop is estimated at 60,000 bags of 100 kilos (220.46 pounds) or 13,227,600 pounds shelled.

Present prices per 100 kilos shelled, f. o. b. Cantania, are as follows:

	Sept. and Oct.	Prompt Delivery.
Palma-Girgenti, lire* ...	161	152.50
Palma, genuine.....	166	158
Aderno.....	166	158
Cantania, selected.....	174	165
Avola, selected.....	190	188
Avola, current.....	173	163

\*Lire is valued at 19.3 cents U. S. gold.

ALEXANDER WEINGARTNER,  
Cantania, Italy. U. S. Consul.

SPAIN.—The almond crop in this district promises to be abundant, and the quality, it is said, will be good. It is calculated that more than double of last year's crop will be collected. The planting of almond trees is yearly largely increased in all the almond growing districts of the Province, making production greater every year.

Some 40,000 to 50,000 bales may be roughly calculated as this year's coming crop. As regards prices nothing can yet be said, as same are not fixed until the middle of August, when first kernels are brought to market. This year prices will rule, it is thought, lower than last season's. The rate of freight to New York from this port via Liverpool is 50 shillings per ton of 20 cwt. net, and via Genoa 40 shillings ditto.

N. W. CAREY,  
U. S. Vice Consul.

Alicante, Spain.

## FRENCH PRUNE AND WALNUT CROPS.

There is little likelihood, if any possibility, that the prune crop of southwest France for 1903 will exceed one-half of last year, which was about one-tenth of an ordinary crop. Because of last year's short crop there are practically no prunes in stock here, except what is left over of importations from California last year.

As to walnuts in this section there is every prospect of an ordinary crop at least. It is, however, too early to decide with accuracy, but all reports agree with my own observation.

The weather after the great frosts was peculiarly favorable, moderately cool and wet, followed by warm weather with frequent showers. The grapes not having blossomed, put out with unexpected vigor, and a third crop may at least be expected.

ALBION W. TOURGEE,  
U. S. Consul.

Bordeaux, France, June 15.

## An Unofficial Parcels Post for Farmers.

TO THE EDITOR:—Fourth of July is past! Its racket is over, its rockets dead! Once more we have assured ourselves that we are the greatest nation on earth! We can now afford to look round for the next chance to make ourselves greater. Possibly we feel big enough to look round quite calmly and complacently and see what the rest of the world is doing. Perhaps there are brains to pick even yet in European lands.

Nations nowadays are sized up according to their commerce, their cash balance, their "national prosperity," as it is called.

The science of commerce is the science of helping Tom and Dick to trade jack-knives with as little friction as possible;

to get producer and consumer together with as little intermediary interference as may be. Johnson in Vacaville grows early peaches and Robinson in St. Paul would like to eat some, if he could get them at a possible price where they would not taste like eating money. If Robinson could write Johnson a letter and say send me by next mail a box of peaches for which I enclose \$1, and if Johnson, for 15 cents postage could send that box of peaches duly refrigerated through the Vacaville postoffice, and have it transmitted post haste to St. Paul, and be delivered like a newspaper now is, both producer and consumer would be benefited. Johnson would get more for his peaches than he usually does at present and Robinson would pay less.

Now, dear reader, don't say "Visionary nonsense!" even if you think it. Is it "nonsense?" Is it even "visionary?" If so, why? Does not "Whole Fourth of July seem to bile in yer veins" still? Are you going to admit that what "effete Europe" can do is "visionary nonsense" in young and lusty America?

Here's what the Great Eastern Railway, a soulless corporation, mind you, does over its 1000 miles of lines in England. As far back as 1896 this road established an "agricultural parcels post." These were its rates regardless of distance:

Packages under 20 pounds, 8 cents; under 25 pounds, 10 cents; under 30 pounds, 12 cents; under 40 pounds, 16 cents; under 50 pounds, 20 cents; under 60 pounds, 25 cents. Charges to be prepaid.

It did more than this. Boxes of certain shapes and sizes were demanded. These the railroad furnished at following prices: Twenty-pound size, 3 cents; 35-pound size, 6 cents; 60-pound size, 10 cents.

These boxes, when filled, were carried, moreover, on regular passenger trains, and delivered, without additional charge, at the consignees' domicile, although this sometimes involves a haul by horse and wagon of from 1 to 8 miles from its depots.

And the soulless corporation that does this is not in business for its health.

The California Postal Progress League believes that such public service is possible in the United States through the postoffice. It wants you, readers, to believe it too, and to show your faith by your works. Think about it, talk about it, and help the cause by adding your name to its membership, and sending your subscription (\$1) to Mr. John S. Dore of Fresno.

EDWARD BERWICK.

Pacific Grove, July 12.

## Fruit and Alfalfa.

Modesto and Turlock irrigation districts, located in Stanislaus county, in central California, have completed their extensive systems. This puts 180,000 acres under irrigation, and anything that can be grown in California can be grown there. Anyone desiring information about that locality can get the same by applying to A. B. Shoemaker, Modesto, Cal.

## SAFE INVESTMENT.

Bonds Secured by Real Estate, Certified by Trust Company; pays 5 per cent interest, payable every 6 months.

Address for information,

I. J. TRUMAN, Call Building, San Francisco.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction.

Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying  
113 FULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of Assaying, \$50. Established 1864. Send for Circular.

## DEWEY, STRONG &amp; CO.,

Patent Agents, S. F., Cal., and Washington, D. C.

## The SHARPLES Tubular Separators.

There are two kinds of cream separators and only two.

## OURS and the OTHERS.

The Tubular bowl. The free for all kind. The bowl without complications, that is easily cleaned.

The entirely clean skimmer under all conditions.

The can't get out of order kind.

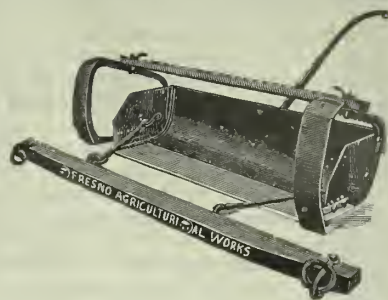
There is a lot of real difference in the two kinds and it amounts to big money in a year's time. Investigate. Separators are different. Free Catalogue No. 131.

P. M. SHARPLES,  
West Chester, Pa.  
THE SHARPLES CO.,  
Chicago, Ills.



## The Fresno Scraper.

3 1/2-4-5 Foot.



FRESNO AGRICULTURAL WORKS,  
FRESNO, CALIFORNIA.

U S U S U S U S U S

Uncle Sam Knows a Good Thing

When he sees it, which is the reason he takes so much pride in the

U. S. CREAM SEPARATOR

The U. S. has many points of superiority, but the following three are sufficient to make it

The most desirable to own:

- Clean Skimming.—Holds the World's Record.
- Safety.—All gears entirely enclosed in iron case.
- Durability.—Most thoroughly and substantially made.

For further information, write for illustrated catalogues.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., Bellows Falls, Vt.

U S U S U S U S U S

## HAVE YOU SEEN THE Jack of All Trades

## —A GASOLINE ENGINE

of the most modern type for farm use?

Pumps Water—Saws Wood—Runs Separators

Shells Corn—Grinds Feed—Churns Butter

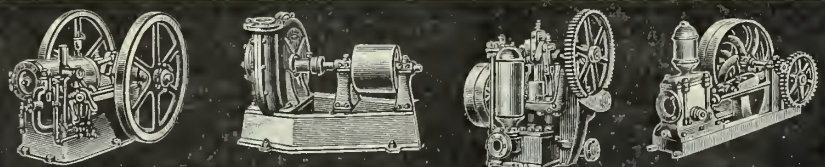
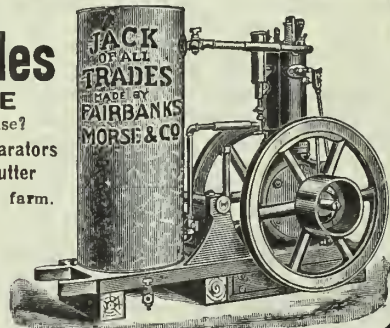
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."

Fairbanks, Morse & Company,

San Francisco, Los Angeles,  
Portland, Or.



## WOODIN &amp; LITTLE,

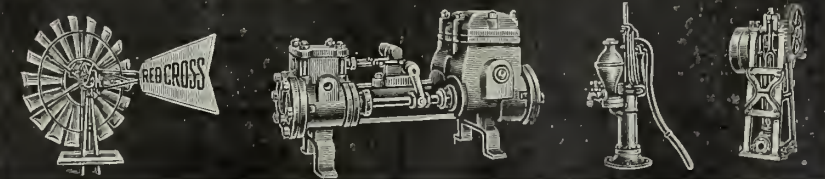
312-314 Market Street,  
SAN FRANCISCO, CALIFORNIA.

DEALERS PUMPS FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITE-WASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.

WIND MILLS, TANKS, HORSE POWERS.

IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES, 1/2, 3, 5, 8, 12 HORSE POWER.

SEND FOR COMPLETE CATALOGUE—MAILED FREE.



## W. &amp; P. ROOFING.

We would like to send you sample of our W. & P. Roofing, and to tell you its advantages over all others.

## PACIFIC REFINING &amp; ROOFING CO.

113 New Montgomery St., SAN FRANCISCO.



## THE POULTRY YARD.

### The Poultry Industry.

Washington correspondents describe a comprehensive account of the poultry industry of the United States prepared by Mr. George Fayette Thompson of the United States Department of Agriculture. Mr. Thompson has collected figures to show that in the city of New York each family of five persons consumes an average of four eggs a day. In Chicago, if it is accounted that the city has reached a population of 2,000,000, the ratio of egg consuming is higher and every person in the city manages to consume one whole egg each day in the year.

The production of poultry and eggs is the most profitable of all industries. Mr. Thompson estimates that a thoroughly modernized hen can realize 400% profit for her owner. In thirty-three States and Territories the value of eggs exceeds the value of the poultry product. The egg product in the United States amounts to more, when measured by dollars and cents, than the combined gold and silver production. This does not take the poultry into consideration at all.

The value of the combined poultry and egg product would be nearly double that of the precious metals. The value of the industry is just six times that of the wool product. Still, eggs have taken only an inconspicuous place in tariff debates. Protectionists and tariff reformers are in a perpetual row over wool, but the hen makes no clamor for protection from Congress. Neither has there been any protest against the introduction of machinery. Prices did not fall with the introduction of the incubator. Instead, the poultry raisers of the country devoted themselves to the education of the hen, so that she would lay eggs during the time the old-fashioned fowl spent in sitting and tending to her brood of chickens.

The grand total value of the annual output of eggs is \$145,000,000, while that of poultry aggregates \$139,000,000. Iowa leads the States in the production of eggs, the yearly product of that State being 100,000,000 dozen. Ohio comes next with 91,000,000 dozen. Illinois is third with 86,000,000 dozen, and Missouri fourth with 85,000,000 dozen. With the exception of Alaska and Hawaii, Montana pays the highest price for eggs, the average price being 20 cents a dozen. They are cheapest in Texas, where the average price last year was 7½ cents a dozen. The average price for the 16,000,000,000 eggs which were marketed in the United States last year was 11.15 cents a dozen.

Prof. Thompson resorts to the railway illustration as a means of impressing upon the mind the enormous proportions of the egg industry. The annual output fills 43,127,272 crates, holding thirty dozen each. An ordinary refrigerator car, which has an average length of 42½ feet, holds 400 crates. He maintains that a train of these cars sufficient to carry the annual product would be 866 miles long, or long enough to reach from Washington to Chicago and have several miles to spare.

In closing, Prof. Thompson says: "The majority of the fowls of this country are found in comparatively small numbers on a very large number of farms, where they gather their own subsistence and receive practically no care. The consequence of this is that eggs are produced at little cost. The development of this industry to an extent incredibly larger than it is at the present time is among the easy possibilities."

**OAKLAND POULTRY YARDS,**  
Breeders of all the Leading Varieties of Fowls.  
Dept. 21, Box 2602, San Francisco. M'n'frs of Pacific Incubator and Brooder. Send for Catalogue.

**Cocoanut Oil Cake.**  
THE BEST FEED FOR STOCK,  
CHICKENS AND PIGS.

For sale in lots to suit by  
**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING JUNE 30, 1903.

732,508.—TUBE SHEET PROTECTOR—C. H. Boone, San Leandro, Cal.  
732,263.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,264.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,265.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,266.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,267.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,268.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,269.—METALLURGICAL FURNACE—M. P. Boss, S. F.  
732,510.—VEHICLE FRAME—G. R. Boulding, Wells, Nev.  
732,172.—EXCAVATOR—W. Cole, Olympia, Wash.  
732,173.—EXCAVATOR—W. Cole, Olympia, Wash.  
732,278.—TIRE PROTECTOR—L. C. Cummings, Pasadena, Cal.  
732,537.—PAPER CUTTER—C. J. I. Devlin, S. F.  
732,636.—FLOW AND CULTIVATOR—W. H. Fox, Gilroy, Cal.  
732,538.—DREDGER—W. H. Fulcher, Oakland, Cal.  
732,498.—WINDOW SASH—E. Hipolito, Los Angeles, Cal.  
732,563.—DESSICATING FRUIT—W. S. Keyes, S. F.  
732,304.—PIANO—F. W. Kringel, Los Angeles, Cal.  
732,567.—GOVERNOR—G. F. Lasher, Portland, Or.  
732,305.—CUFF HOLDER—C. H. Leach, Orchards, Wash.  
732,580.—INDICATOR—T. J. McGrath, Portland, Or.  
732,581.—INDICATOR—T. J. McGrath, Portland, Or.  
732,649.—SAWMILL—H. S. Mitchell, Seattle, Wash.  
732,653.—RAIL BRACE—D. D. Quenell, Riparia, Wash.  
732,319.—CONCENTRATOR—Rogers & Hanson, S. F.  
732,655.—JAR CLOSURE—J. H. Saunders, Olympia, Wash.  
732,452.—BASIN PLUG—W. F. Schultheiss, San Diego, Cal.  
732,592.—BOTTLE—H. V. Scott, S. F.  
732,605.—LEACHING ORES—G. E. Thede, Havilah, 73Cal.  
732,680.—RACING HURDLE—R. P. Traxler, S. F.  
732,667.—BEEHIVE—H. Vogeler, Newcastle, Cal.  
732,477.—ELECTRIC SWITCH—I. G. Waterman, Santa Barbara, Cal.  
732,608.—ELECTRIC FLOAT—I. G. Waterman, Santa Barbara, Cal.  
732,148.—SAWMILL—A. J. West, Aberdeen, Wash.

## Breeders' Directory.

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS**. Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETERSAXE & SON**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**THOROUGHBRED POLAND-CHINA FOR SALE**, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**SANTA TERESA POULTRY FARM**, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**BRONZE TURKEYS**. Ed. Hart. Clements, Cal.

### SHEEP.

**R. H. ORANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY**, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**DEWEY, STRONG & CO.**, Patent Agents, S. F., Cal., and Washington, D. C.

# Largest Nursery

West of the Rocky Mountains

## CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

## RESISTANT GRAPE VINES

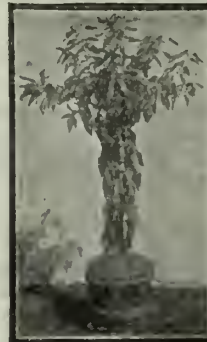
Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine Grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 18

FRESNO, CAL.



## PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased to send you one.

SAN DIMAS CITRUS NURSERIES

San Dimas, Cal.

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the **BEST**

MANUFACTURED BY

**N. OHLANDT & CO.**, Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Crumpling Machine and method of use; also trough feeding, and our special brand of **Grenadier Meal**: the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. **THE PETALUMA INCUBATOR CO.**, Pacific Coast Agents, PETALUMA, CAL.

## HOLSTEIN CATTLE.

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders.

Large Number of Officially Tested Cows. Bull Calves from Great Producing Dams. Correspondence and personal inspection invited. **R. M. HOTALING**, 431 Jackson St., San Francisco.

## FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. **J. W. McCORD**, Hanford, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at OHOWOHILLA STOCK FARM.

Address.... **ISAAC BIRD**, Merced, Cal.

## NO HUMBUG.

Three in One. Swine V. buck Marker and Calf Debarker. Stops swine from rooting. Makes 48 different ear marks. Extends Horns. Price \$1.50. Send \$1 for trial. If suitable, send balance. Paid May 4, 1902. Hog and Calf Holder only 75c. **FARMER BRIGHTON**, FAIRFIELD, IOWA.

## THE TROTTER HORSE OF AMERICA.

How to Train and Drive Him, with Reminiscences of the Trotting Turf.



By Hiram Woodruff.

The author was one of the most noted horsemen of this country, and in the work before us has given to the public the best thoughts, founded on years of experience in the feeding, handling, breaking and training of colts with a view to securing their best performances. Besides treating of driving horses, it gives a condensed history of the best horses in this country. 12mo. Size, 5½x7½ inches. Cloth, extra, \$1, postpaid. Address **PACIFIC RURAL PRESS**, 330 Market St., San Francisco, Cal.

## THE RAISIN INDUSTRY.

A Practical Treatise on Raisin Grapes Their History, Culture and Curing.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hildgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers. Sold only by **THE DEWEY PUBLISHING CO.**, or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

**PACIFIC RURAL PRESS,**  
330 MARKET ST., SAN FRANCISCO.

**PACIFIC RURAL PRESS,**  
330 Market Street, San Francisco, Cal.



## FORESTRY.

## A Forest Policy for California.

With the intention of fixing upon a proper forest policy, California has undertaken this year, with the help of the Bureau of Forestry, a comprehensive and detailed study of its forests. The State Legislature recently appropriated \$15,000 for the study, the condition being that it should be carried out by the Bureau of Forestry, and that the bureau should bear half the expense.

The State desires to know those facts about its forests that will guide it in passing wise forest laws. It desires to know, for instance, what disposal should be made of the State forest lands, what should be done to regulate the cutting of timber on them, how forest fires may best be restrained, whether tree planting in denuded areas will pay, etc.

The task of securing all the information necessary for a forest policy for California the Bureau of Forestry has begun this summer. The work is of such magnitude that several years will be required to complete it, but valuable and suggestive results will be secured each year.

The work has been begun on a large scale. Six men are now examining public lands in the State to determine what parts of them are suitable for national forest reserves, and similar studies will be made of lands for State reserves. A study will be made of all lands owned by the State in order to determine the uses to which they may best be put, who should administer them, and what sort of administration they should have. A forest map of California will be made, showing the location of all forest areas and distinguishing between the different kinds of forest. In connection with the forest map will be a study of important trees in order to learn with exactness the commercial range of the valuable species. An investigation will be made of the effects of lumbering on the forest in order to determine what ought to be done to cut-over lands. It is of great importance to know what happens to the land in different parts of the timbered regions after it is cut over by the lumberman—whether it comes up again in timber or whether it becomes waste land.

The effects of fire on the forest, especially after lumbering, and what may be done by the State to prevent fire are subjects that will take a long time to work out. In September, E. A. Sterling of the bureau will try to determine what is the cheapest and most effective method of protecting from fire land that has been lumbered.

The bureau will also make a study of the chaparral lands of southern California in order to learn whether it will pay to plant them with timber trees. A very interesting question has been raised as to whether chaparral—which includes a great variety of scrub trees, such as manzanita, scrub oak, valley mahogany and scrub cherry—will retain the moisture in the soil as well as timber trees. Chaparral grows denser than timber trees, and often reaches a height of 20 to 25 feet and a diameter of 16 to 18 inches. L. C. Miller, who has charge of this work, is now making a study of the conditions under which chaparral grows in the San Gabriel mountains, near Pasadena, where the bureau has been planting pines and cedars for several years.

The results of these separate investigations will be gathered together by William C. Hodge of the bureau, who has general charge of the California work, and will be presented to the State in a formal report, accompanied by maps.

## Resolutions of Respect.

Florin Grange, No. 130, of Sacramento county, has adopted resolutions of respect to the memory of Sister Laura E. Jenkins, deceased, who is characterized as a useful, energetic member of the Order, ever willing to do her part. The committee preparing the memorial consisted of Sisters Susan I. Cox, Clara G. Fitch and Myrtle I. Reese.

## GLENN RANCH,

Glenn County, :: :: California.

### FOR SALE

In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## LAND!

Near Stanford University and Palo Alto, Santa Clara County, California.

**\$11,500.** Good general farm, 83 acres, 2 1/4 miles out. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

**\$7000.** A beautiful tidy place. House 8 rooms, large barn, etc., young orchard 10 acres, 3 miles from University; must be seen to be appreciated.

**\$7750.** Profitable bill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and belfers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

I have listed many other larger and smaller orchards, also town lots in Mountain View and Palo Alto, also good orchard land ranging from \$100 to \$200 per acre. Write for what you require. JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

## Napa County Real Estate FOR SALE.

Homeseekers should visit the beautiful and fertile Napa valley before investing elsewhere. Send for our illustrated catalogue, "The Garden Spot of California." Address communications to THE CALISTOGA REAL ESTATE CO., Calistoga, Cal.

**BUY** alfalfa land graded ready to plant; water right deeded with land guaranteed sufficient for irrigation purposes; near town creameries and R. R.; will sell for a limited time at \$15 per acre; half cash, balance on time if desired. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

## NOTICE.

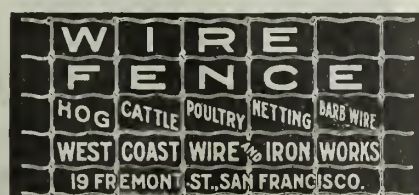
The Annual Meeting of the Stockholders of the GRANGERS' BUSINESS ASSOCIATION, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 309 California Street, San Francisco, at 10 o'clock A. M., Tuesday, the 11th day of August, 1903.

A. D. LOGAN, Vice-President.  
CHARLES WOOD, Secretary.



## PAGE 12-BAR, 58-INCH FENCE

comes pretty near being the perfect farm fence. 1 PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.

**PACIFIC RURAL PRESS.**

330 Market St., San Francisco, Cal.

## POOR SEPARATORS MAKE POOR FARMERS!

## DE LAVAL CREAM SEPARATORS

are superior to other Cream Separators

BECAUSE they possess the "Alpha-Disc" and "Split-Wing" improvements which cannot be used by any other manufacturer.

BECAUSE the vastly greater sale of De Laval machines—ten times all other machines combined—together with the protected patents, enables the De Laval makers to produce a perfect Cream Separator, which no competitor could attempt.

Everything the dairyman needs, everything in dairy apparatus and supplies, both for farm and home, carried by us. The largest stock of dairy goods on the Pacific coast constantly on hand.

A De Laval catalogue explaining in detail the facts here set forth may be had for the asking.

**DE LAVAL DAIRY SUPPLY COMPANY,**

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

**BETTER NOT BUY A SEPARATOR AT ALL THAN ONE THAT IS WORTH NOTHING!**

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Tinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

**Price \$2.50, Postpaid Anywhere.**

## CALIFORNIA VEGETABLES

### GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Cicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

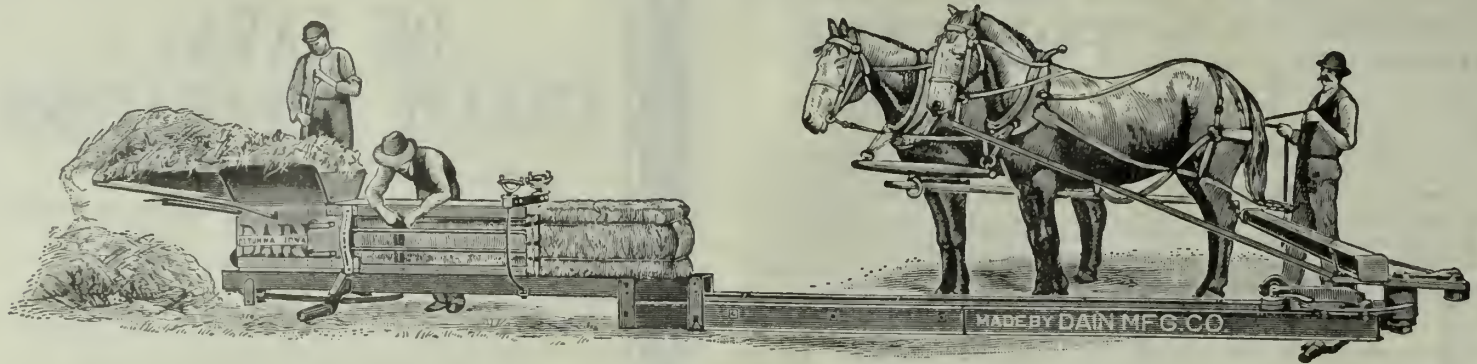
PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# The Best Press on Earth!



## DAIN'S PULL POWER HAY PRESS.

18x22-inch Bales. Built entirely of Steel and Iron, except the Sweep and Feed Table. Is continuous travel, full circle, making two feeds to each round of the horses. Is the only Press built without a pitman which gives the team the additional power gained by pulling instead of pushing every charge of hay home, and allows of the press being made much simpler and stronger than any pitman press can possibly be made. If you are going to buy a Hay Press, it will be money in your pocket to investigate the DAIN PULL POWER HAY PRESS.

## Deere Implement Co.

209-211 Market Street, SAN FRANCISCO, CAL.

## Bean Threshers.

We are now ready to supply a Bean Thresher of undoubted merit. Large separating surface. No beans or peas passing through with the vines. Furnished in different sizes to suit your needs.

If interested, send for catalog and full particulars. Address

## BAKER & HAMILTON,

Sacramento, San Francisco, Los Angeles, Cal.

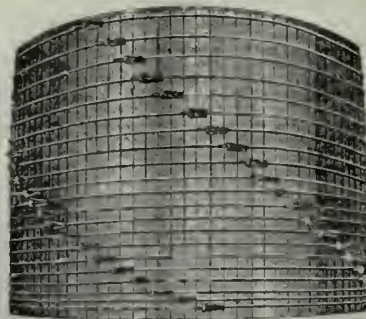


### PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.  
Send for Illustrated Catalogue, with Prices.  
BURNHAM-STANFORD CO.,  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.

### OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or pertshable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

The Excelsior Redwood Co.

SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.



## TOULOUSE & DELORIEUX,

620-622 COMMERCIAL ST.

SAN FRANCISCO, CAL.

## OLIVE MILLS.

WINE MACHINERY.

THE LATEST AND BEST.

SEND FOR CATALOGUE.



STATE LIBRARY

to be taken from the Library. ....

# THE PACIFIC RURAL PRESS

State Library July 14, 1903

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 4.

SAN FRANCISCO, SATURDAY, JULY 25, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Three More California Oaks.

We recently gave a group of foliage pictures of California oaks in connection with extracts made from the graduating thesis of Mr. W. W. Mackie, as published by the Experiment Station of the University of California, because of the accurate determinations made of the nutritive value of the browse which these oaks afford. It is, of course, a very old observation that stock eat the leaves, but it was new to determine the nutritive standing of the leaves as compared with other forage, as shown by the data which we reproduced in the PACIFIC RURAL PRESS of July 11. The pictures of the oaks are useful as aiding our foothill and mountain readers to identify botanically the trees and shrubs with which they are familiar. Three more of these oaks are shown herewith.

The Maul Oak (*Quercus chrysolepis*), when found growing on well-watered and protected slopes, is a tree 40 to 60 feet in height, with large, sweeping branches. On exposed slopes, however, and on the upper ridges and peaks, it becomes a gregarious shrub with scrub oak (*Q. garryana*). The leaves are oblong, acute or cuspidate, entire on old trees, but spinose-dentate on young ones and on shoots. They are pale and glaucous above, with golden tomentum below. The acorn is usually solitary, ovate or oval,  $\frac{1}{2}$  to 2 inches long, and borne in a shallow cup. The crop of mast is uncertain and is often ruined by the larvæ of moths. The range of this oak extends from southern Oregon through the Coast Ranges and Sierra Nevada, and on through the San Bernardino mountains to Lower California.

It often reaches an elevation of 9000 feet. Maul Oak is used as "browse" by sheep and goats, and sparingly by cattle.

The Black Oak (*Quercus californica*) is a tree 18 to 30 feet high, usually with several large, erect branches. It is generally found near coniferous trees, and apparently occupying the same belt. Young trees often occur in dense growth, and, when in this condition or when overshadowed by other trees, grow slowly, thus enabling stock to browse on them. The leaves of young trees are covered with a dense gray tomentum below, and are pubescent above. On older trees the leaves are glabrous, with little tomentum. They vary from oblong to broadly ovate in outline, and each is parted into about seven broad lobes. The nut is broadly ovate, 1 inch in length, and ripens in the second season. The crop is scanty and unreliable. The range of the Black Oak extends from the Mackenzie river in Oregon through the Coast Ranges and Sierra, and through the San Bernardino mountains to Lower California. This oak often reaches elevations of 7000 to 8000 feet. It is scarce near the coast. The flexible texture of the leaves of this oak allows it to be easily eaten by cattle and horses, as well as by sheep and goats.

There are two forms of the White Mountain Oak (*Quercus garryana*), differing only in range and height of individuals. The typical form is a tree from 30 to 70 feet in height, with rigid, erect branches. Its leaves are oblong to obovate, 4 to 6 inches long, with coarse lobes. The acorns are sessile or shortly peduncled, oval to slightly obovate, about 1 to  $1\frac{1}{2}$  inch in length,

contained in a shallow cup. It ranges from Vancouver island southwestward through Washington, Oregon, and the Coast Ranges of California, to Santa Cruz. It is the only oak used for lumber on the Pacific coast.

The other form of this species is a mere shrub from 2 to 6 feet high, but identical with the larger form in every other particular. Its range begins in

an exposed portion of western Washington, where apparently it is stunted by the severe sea-breezes. Passing along the western slopes of the Cascades in Washington and Oregon, its elevation continually increases until in California it is found only on the highest ridges and peaks. Its southernmost range is Snow mountain in Lake county.



Two Leaf Forms of Maul Oak—*Quercus Chrysolepis*.



The Black Oak—*Quercus Californica*.



The Mountain White Oak—*Quercus Garryana*.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON..... Horticultural Editor

San Francisco, July 25, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Two Leaf Forms of Maul Oak (*Quercus chrysolepis*); The Black Oak (*Quercus Californica*); The Mountain White Oak (*Quercus Garryana*).  
EDITORIAL.—Three More California Oaks, 49. The Week, 50.  
QUERIES AND REPLIES.—The Large Squash or Pumpkin Bugs; The Climbing Fig; Thrips on Beans; Pumping for Irrigation, 50. Asparagus From Seed; Prune Drop; Asparagus Growing; Alfalfa Growing; English Walnut on Black Walnut; Alfalfa and Burr Clover, 51.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending July 20, 1903; Temperature and Rainfall, 51.  
THE DAIRY.—Improving the Keeping Qualities of Milk; Notes on Silage in the San Joaquin, 52.  
THE ORNITHOLOGIST.—Notes on California Birds, 52.  
THE VETERINARIAN.—What Should Be Done With Tuberculous Animals; Answers to Inquiries—Inflammation of the Bowels; Swine Plague; An Operation Required, 53. Fighting Glanders, 54.  
THE FIELD.—Asparagus Growers' Meeting; The Price of Sugar Beets, 54.  
THE APIARY.—Are Bees Poisoned by Yellow Jessamine? National Beekeepers' Meeting in California; Southern California Honey Crop, 54.  
THE VINEYARD.—The Raisin Outlook, 54.  
AGRICULTURAL REVIEW.—55.  
THE HOME CIRCLE.—Good Country to Live In; The City Poet on the Farm; The Passion Flower, 56. If the Baby Is Fat, Beware; Care of Gilt Frames; Throwing a Slipper; Origin of the Sandwich; Domestic Hints; Hints to Housekeepers, 57.  
THE MARKETS.—Produce Market; Fruit Markets, 58.  
THE IRRIGATOR.—California Men Will Build Uncle Sam's First Great Irrigation System, 60.  
FRUIT MARKETING.—Prune Market in Hungary for 1903, 61.  
PATRONS OF HUSBANDRY.—Oakland Grange; Sonoma Pomona Grange, 62.  
MISCELLANEOUS.—California World's Fair Commission Offers Premiums, 60. Declaration of the Profitability of California Fruit Growing; New Patents, 62.

## The Week.

Quite plain indications are visible of the activity in California affairs, to which we frequently delight to refer. It is well occasionally to set forth appreciable measurements of tendencies which are casually noted. Such a measurement is found in the fact that the ingathering of the assessors for taxation purposes shows that property in the State of California has increased during the past year at least \$80,000,000, and this sum may be swelled to \$100,000,000 by the time all the counties in the State have been heard from. There is another pleasant thing about this: It will reduce the tax rate some little fraction of a cent. Another sign of activity is the mileage which is spun over by railway trains. It is reported from the yards at West Oakland that for the month of June, the locomotives on the Western Division of the Southern Pacific covered 512,000 miles, which is the largest total ever made by the engines running out of West Oakland. This total is 4000 miles greater than October of last year, which was the record-breaking month of 1902. It must be remembered that the new engines put on the line during the two years past are much more powerful machines than those formerly in use and consequently the increase in motive power has been greater than percentage figures would indicate. Assessed valuation largely increased and common carriers covering larger distances, show that the State is doing a big business and adding to its capital at a gratifying rate.

Spot wheat is materially higher and the trade strong, although futures have receded a little from their extreme advance. The first clearance of the season covers 650 tons of wheat and 2150 tons of barley for some European port. Freight rates are still weak—a ship being taken at 17s 6d for barley to Europe. Barley is strong, especially for export grades; arrivals are small and much buying in the country reported. Oats are firm for choice, while low grades are said to be very foul and dragging at sale. Corn is so scarce that quotations are nominal. Rye is still held above buyers' views; millers are taking a little at \$1.12½, but other buyers bid \$1.05. There is a fair demand for beans for shipment and prices are unchanged. Millfeeds are unchanged and have a downward look

because of increasing supplies. Hay is firmer through heavy exports, 7000 bales having gone to the islands. The lower grades of beef have cheapened; other meats are unchanged. Choice butter is firm; medium is weak; Eastern markets are lower and supplies working this way, while some is also coming out from storage. Eggs are in the same fix. Cheese is firm and selling above Eastern prices. Poultry is in bad shape; five cars of Eastern have rushed against the home product. Potatoes are firm and higher and, though unsettled, are stiffer at the close. Onions are abundant and unchanged. Tree fruits are firm, especially apricots, peaches and fine Gravenstein apples. Plums are weak and melons have been too abundant for the cool weather. Citrus fruits are slow and dragging. Dried apricots are in good demand and strong. Prunes are unchanged, but with rumors of shading in some sales. New dried apples are held at 5½c. Peach samples are appearing but no transactions reported. Nuts are unchanged. Honey is firmly held and not much doing. Hops are firm to buy and weak to sell. Wool is inactive, but firm; 73,000 pounds have gone out by sea. Fall clip is looked for in two weeks.

Three sessions a day for six days—that is the sort of a farmers' institute the keen interest of southern Californians for agricultural and horticultural progress demands, and such a one will open at Longbeach, Los Angeles county, next Monday morning. We gave in our issue of June 27 a general outline of the meetings by Prof. Cook, who organized it on the part of the University of California. There will be, according to the week's programme which we have just received, an average of four set lectures or addresses at each session and ample time for free discussions of the subjects introduced. This means that there will be about seventy-five set speeches during the week and it takes a pretty good church-goer to hear that number in a year. There will be about seventy-five subjects of much value pursued to the limits of existing knowledge and the hearing ought to add greatly to one's knowledge of California's agricultural things. There will be, of course, a throng of people to enjoy the institute on the seaside, and to combine recreation and instruction as it is clearly intended to do.

The California World's Fair Commission is making some good appointments, such as William H. Mills for superintendent of forestry exhibits and George C. Roeding for superintendent of horticulture. Both these gentlemen are enthusiasts and experts—which makes a strong combination of qualities. If a man can know much of a subject and still be enthusiastic, we catch on to his coat tails and follow, while for enthusiasts who know little of their subjects—well, we have had too many of them in high places already. By the way, we are to have a building at St. Louis which will really be a significant exhibit itself, for, not content with construction in the mission style, the Commission has decided upon a sure-enough mission, and will reproduce the handsome Santa Barbara mission. As to the fitness of the thing, a mission church full of beat-the-record pumpkins, peaches, nuggets, olive oil, full-bodied spirits, etc.—that, again, is out of our depth. The archbishop says he can stand it, so we shall not object.

The Santa Clara county people are now going at it in what seems to us a very promising way. We read that representatives of the leading co-operative fruit unions of this county have drawn up articles of agreement for the formation of a co-operative fruit selling agency. Attorney Leo Archer has prepared the plan promulgated by the unions' representatives. He states that he has modeled it on the lines of the old Central Selling Agency, forming a plan for a limited partnership for a particular purpose, namely, handling Santa Clara county fruit through a Santa Clara agency. This means that the very successful local associations of Santa Clara county will act together. Now, if other counties will gather together their local associations in the same way and then the way will be open for affiliation of the county associations and more will be accomplished than ever before. We are glad, too, that the poultry people are proceeding in the same way. In Santa Rosa they organized an egg-selling society, which has done well. At Petaluma there was another society without the selling feature. At

Santa Rosa last week it was stated that the Petalumas were about to remodel their organization on lines similar to those of the Santa Rosa Association. This would place the chicken portion of the county in a position to act together for the benefit of all concerned. The work of organization is still going on, and new members are constantly being added.

## QUERIES AND REPLIES.

### The Large Squash or Pumpkin Bugs.

TO THE EDITOR:—I have ten acres of fine pumpkins which are being eaten up by these large, flat pumpkin bugs. Kindly give me a remedy. — GROWER, Fresno county.

The killing of the insects which you describe is exceedingly difficult and no perfectly satisfactory remedy has ever been described, though a number of treatments are measurably successful. They are puncturing and not biting insects and consequently cannot be poisoned. When they are young they can be readily killed by a spray of kerosene emulsion, so far as they are reached by it, but spraying for the matured insects is generally considered unsatisfactory. On a small scale there is perhaps nothing better than hand picking early in the season, and destroying the egg clusters which are readily seen on the leaves, thus cutting off later generations. Some success has been reached by sprinkling the plants with fine wood ashes, air slacked lime, etc. Some growers also report success in driving the insects away by sprinkling the vines with fine dust from a clay road, stirring into this dust as much kerosene oil as possible without making it too oily or mushy. All that we can do is to mention these treatments, hoping that one of them may be of assistance in holding the pests in check.

### The Climbing Fig.

TO THE EDITOR:—Have you ever seen the *Ficus repens* bear fruit? We have it here in fruit; it also fruited last season. It grew very vigorously, the foliage about double the ordinary size. I cannot hear of any one who has had it fruit. — AMATEUR, Los Angeles.

We have never seen the *Ficus repens* in fruit and it is reputed to be rather rare for it to bear fruit. There are two varieties; one is called minima, which has very small leaves and is sometimes used for hanging baskets. The typical punila or repens has much larger leaves and a coarser, more shrub-like growth. Is it possible that you are growing the larger variety and comparing it with the smaller?

### Thrips on Beans.

TO THE EDITOR:—Enclosed find some bean leaves. You see they are affected with some kind of insect—they are getting the best of my beans. Is there any way to kill them so I may save the vines? — GROWER, Selma.

The insects are thrips. You will find an interesting account of this pest in the *PACIFIC RURAL PRESS* of May 9, 1903. In that article Prof. Cook discusses especially the occurrence of thrips on citrus fruit trees, but the references to the insect as such will fit your enemy. Spraying with kerosene or distillate emulsion will kill them and some growers report success with sulphur applications as they usually are made for red spider.

### Pumping for Irrigation.

TO THE EDITOR:—Is it practicable to irrigate land economically by pumping water from wells? I can buy from the State good land at \$1.50 per acre. There is some water at 6 to 8 feet, and at 20 to 30 feet, after passing through hardpan, an apparently inexhaustible body of pure water. Alfalfa would be the principal crop desired. Would it be as well to buy this land as to buy similar land at \$30 per acre with perpetual water right but burdened with annual payment of charges for service? — SUBSCRIBER, Salt Lake City.

It is certainly profitable to pump water for alfalfa, with water in abundance at such depth as you speak of: in fact with water at 6 to 8 feet, the plant will do its own pumping, subject to the disadvantages mentioned in answer to another question this week. California experience amply demonstrates that pumping can be very cheaply done with good pumps and motors and in many cases the water can be had from wells for less than from the ditches. Our advertisers of pumps and motors can give you much trustworthy information on these points. Cost of fuel is an important matter also. As to which of the



lands you speak of would be the better to buy depends not alone upon the water but upon the land also. There is sometimes good water under poor land. You will have to determine that phase of the matter yourself with the best local advice you can get. Thirty dollars an acre for good land with right to water at a fair price, is good enough for anybody and might be cheaper than State land at the lower price.

Asparagus From Seed.

To THE EDITOR:—This last spring I was unable to get asparagus seed, owing to the scare of asparagus rust. I write you to know why I can't use the seed from five-year-old growing stalks. They fall on the ground and grow. But some say that the seed should come from beds ten to twelve years old. I don't see why. Other seeds from well matured plants do well when two to three years old from the parent plant. Be so kind as to enlighten me on the subject. I can cut back the tops and grow larger seed, and again it is said that the top seeds are the best—a few off of each stool so treated.—WALTER ARMSTRONG, Sebastopol.

There is a lot of news about asparagus seed and seedlings in this record of what people tell you about them. There is much that we can neither affirm or deny and concerning which we believe there has no demonstration been reached. We would proceed to grow seedlings from the seed you describe providing the seed was large and heavy for its kind and the plants from which it comes are strong and healthy, having made large shoots the past season showing good top growth since then. The best seeds on the plant are those which are taken from seed balls formed rather early and which reached perfection while the plant has moisture enough to make vigorous good-colored growth. It is altogether unlikely that there is any particular virtue in excessive age in the parent plant or that position on the plant is of particular moment, except as position means the best development and rather early setting of the balls from which the seed is taken.

Prune Drop.

To THE EDITOR:—We send by this post a few French prunes as samples of those now dropping from our tree, and shall be obliged if you can give us any information as to the cause. The trees are nine years old and very healthy in appearance, pruned out pretty thin that light and air can get in well. The soil is heavy, nearly adobe, and holds moisture well and is probably about 10 feet deep with close gravel under, has been well cultivated and the moisture is now within 8 inches of the surface. This year we topped half the trees of the orchard, but notice the drop is general on those thus cut back and those left, and the trees that bore heavily last year are no worse than those that had light or no crop. A similar falling took place last year.—W. J. HILL & SONS, Shasta county.

The samples and the description indicate that the drop is the customary loss of fruit during the growing season, and not occasioned by any disease or mistake in treatment of the trees. All fruits are subject to this cast-off and no satisfactory reason has ever been given. Something about the attachment goes wrong, though no encroachment by disease or pest can be seen, and the fruit is lost. Earlier in the season there is a drop from lack of pollination in many cases, but these fruits are not deficient in that respect. Sometimes the drop is a serious loss; sometimes it may be followed by gain in size in the fruit which remains to more than compensate for its weight. No one knows why this difference in amount of drop, nor why any drop at all.

Asparagus Growing.

To THE EDITOR:—Will asparagus grow in sandy ground if the sand is about 3 feet deep? Will seepage water kill it out if planted on low ground? How do you plant it—with seed or roots—and how many years before it produces very much? Will it grow where there is alkali? What time of year is best to plant it? Is salt good for the ground as a fertilizer? If the sand gets very dry in summer, will the roots dry out?—BEGINNER, Sacramento.

Asparagus will certainly grow on a deep, sandy loam, providing moisture enough is present during the summer to prevent its drying out deeply. Clear sand will not support the plant well for lack of plant food and fertilizers will have to be freely used. The plant will endure a considerable amount of seepage water and would also live through submergence for a considerable period. To start a plantation, the

plants are grown from seed in a seed bed and transplanted the following spring, when the roots are one year old. The first year after planting out the roots should be allowed to make all the top growth they desire. The next year a little cutting can be done, and the second year a good crop can be harvested. Asparagus will endure some alkali and common salt can be used to advantage, providing the soil does not already contain enough. You will find quite a full account of California methods of asparagus growing in our book on "California Vegetables."

Alfalfa Growing.

To THE EDITOR:—I intend putting in about eighty acres of alfalfa and would like to learn something about the planting, etc., and what is necessary in working soil, and quality of seed to get best results.—FARMER, Concord.

Alfalfa growing is fully and continually discussed in our columns through essays of practical growers, prepared for Farmers' Institutes, etc. The best collection of California experience in alfalfa growing, of which we know, is that contained in the Transactions of the California State Agricultural Society for the year 1900, pages 98 to 112, which was made up from essays previously published in the PACIFIC RURAL PRESS. If you will write to Mr. H. Lowden, acting secretary, Sacramento, he will send you a copy of that report. In a general way it may be said that in preparing land for alfalfa it should be deeply plowed and thoroughly harrowed so as to secure a good seed bed. Be sure that you secure good, clean seed from reputable seedmen, even if you have to pay a little more for it than the current price, because unless care is taken in securing seed from a clean field a number of very troublesome weeds are likely to be introduced. It is usual in all places, except where sharp frosts are likely to be encountered, to sow the alfalfa as early in the fall as the ground can be brought into good condition, so as to get a good start of the plant before winter. Scatter the seed as evenly as possible and cover with a brush drag, so as not to bury deeply. If the plant is to be grown by irrigation, which assures usually two or three times as much product, the land should be graded and laid off in contour checks, the levees broad and only 6 or 8 inches in height, so that it will be possible to grow the alfalfa on the levees as well as in the checks and work over the whole field with a mowing machine. If the water is within 10 or 12 feet of the surface and the soil is loose and open (no hardpan) down to that depth, alfalfa can be profitably grown without irrigation, but the possibility of killing out gophers and of getting much greater product from the land makes the investment vastly better if irrigation can be supplied.

English Walnut on Black Walnut.

To THE EDITOR:—There is some land here which produces good crops of beans, corn and small grain, but which seems to have such a percentage of alkali that the English walnut will not thrive. Will the Eastern black walnut do well in such soil? This black walnut (*Juglands niger*) is hardier, and the idea is to root graft, or bud, the English walnut on the black walnut stock. Do you think the tree will prosper? I have noticed the growth of this black walnut along the roadsides of Butte county and elsewhere in heavy soils which may have had some alkali.—READER, Ventura.

You can count upon the native California walnut (*Juglands californica*) to be hardier in the root than the common English walnut seedling, but just how much more salts it will endure has not been determined definitely. This California black walnut has been planted as a roadside tree to a considerable extent in the Sacramento valley, and such trees have been successfully grafted over to English walnuts. Are you sure that the black walnuts which you saw in Butte county were the Eastern black walnut and not the California? Of course, it may be true, but certainly the California nut is far more widely used as a root for the English walnut. You can get the trees from nurserymen in this part of the State grafted on both the California and the American black seedlings. We are sorry that we cannot point to a satisfactory demonstration of the comparative tolerance of these roots for alkali soil. Perhaps some reader has data which he will communicate. As our correspondent infers, there are certainly native black walnuts to be found in regions where there is much alkali.

Alfalfa and Burr Clover.

To THE EDITOR:—Will you kindly give the relative values of alfalfa and burr clover, both as a feed to fatten stock and as butter fat producers.—H. J. WARRICK, Tehama county.

We have no comparative analyses of the green fodder of these two plants, but their analyses as hay, as made at the Experiment Station at Berkeley is as follows:

	Dry Matter in 100 lbs.	Protein.	Carbo- hydrates.	Fat.
Alfalfa.....	89.1	12.3	37.1	1.6
Burr Clover.....	89.9	7.3	41.2	1.8

From these analyses alfalfa is superior for milk making, because of its considerably larger content of protein, and burr clover is superior for fattening, because of its larger content of carbohydrates and fat. This agrees closely with the teaching of experience. Burr clover is good for fattening, the large amount of oily seed contributing to that end. At the same time burr clover has more protein than grain hays and is better than they for milk making.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 20, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

SACRAMENTO VALLEY.

Clear weather prevailed during the week and the temperature was slightly below normal. Harvesting, thrashing and hay baling progressed rapidly. Early wheat and barley are yielding good crops in nearly all sections. Late wheat has been improved by the cool weather, and in a few places will yield a small crop. Peaches are ripening and Tuscan Clings are nearly ready for picking. Tragedy prunes are being gathered at Palermo. Pears are being shipped in considerable quantities and the crop will be large. Large shipments of dried apricots are being made from Colusa county. Grapes are in excellent condition and a heavy crop is probable.

COAST AND BAY SECTIONS.

Cool and foggy weather prevailed during the week in the coast districts and generally clear, warm weather in the interior. The fogs retarded harvesting in some places, but were beneficial to late wheat. The grain crop is being rapidly harvested and thrashed, and is nearly average in most sections, though a few places report a light yield. Hay baling is progressing. Corn, beets and beans are in good condition. Nearly all deciduous fruits are yielding excellent crops. Apricot drying is in progress; the yield in San Benito county is better than expected. Grapes continue in splendid condition and large crops are looked for.

SAN JOAQUIN VALLEY.

Clear weather, with warm days and cool nights, prevailed during the past week. These conditions have been most favorable for harvesting grain and ripening fruits. Harvesting and thrashing continue in most places, though finished in some. Wheat and barley are fair crops, but in some places lighter in weight than last year. Grain is going to warehouses in large quantities. A small amount of the third crop of alfalfa is being cut. Fruit cutting and drying are progressing; early varieties are nearly exhausted. Large quantities of peaches and pears are being shipped to Eastern markets. The watermelon crop is large and of good quality. Stock are healthy and in good condition. The streams are falling fast.

SOUTHERN CALIFORNIA.

Warm, clear weather prevailed during the week, except along the coast, where it was foggy and somewhat cooler. Harvest is in progress in all sections. Early wheat, barley and oats are yielding excellent crops in most places. The large crop of hay is being rapidly baled and stored. Sugar beets and beans are doing well. Beet harvest is progressing and the sugar factory at Santa Maria has commenced operations, with an excellent crop to work on. Apricot drying is in progress; the fruit is of superior quality, but the yield is light. Other deciduous fruits and oranges are doing well. Grapes are in good condition and will yield heavily.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, July 22, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall to Same Date Last Year.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.05	.05	.24	.05	56	50
Red Bluff.....	.00	.00	.00	.01	94	55
Sacramento.....	.00	.00	.00	T	86	52
San Francisco.....	.00	.00	T	.01	63	48
Fresno.....	.00	.00	.00	T	95	50
Independence.....	.00	.00	.00	.05	98	50
San Luis Obispo.....	.00	.00	.00	T	82	46
Los Angeles.....	.00	.00	.00	.01	88	54
San Diego.....	.00	.00	.01	.03	72	60
Yuma.....	T	.04	.00	.10	104	74



## THE DAIRY.

### Improving the Keeping Qualities of Milk.

By CHARLES F. DOANE, in Bulletin 88 of the Maryland Experiment Station.

**WHAT MAKES MILK TURN SOUR.**—To understand fully the reason for milk turning sour one must leave that which would be recognized as entirely simple and indulge in a little scientific explanation. Fortunately all organic matter, or what might better be termed vegetable and animal products, commence to decay, or, as is sometimes termed, ferment, as soon as or shortly after they are brought into contact with the air at normal temperatures. Were this not so, it would not take many years for the earth to be entirely encumbered with the dead and useless bodies of plants and animals. This decaying or fermenting is caused by bacteria, which themselves are very small vegetables, but from their ability to increase in numbers very fast it is possible for them to play an important part in a great many things which affect the human race. It is these small vegetables, or bacteria, which cause milk to turn sour. They get into the milk in various ways, which will be mentioned later, and, if the conditions of temperature are right, they multiply rapidly and turn the sugar found in all milk into an acid, which gives the milk its sour taste and which eventually curdles or thickens it. It being the case that these small vegetables are responsible for the changes in the milk, it is perfectly plain that if they could be excluded from the milk, or if the conditions of the milk could be made such as to keep them from growing after they get into it, the problem would be solved. It should also be plain to the reader that the smaller the number which get into the milk in the first place, the longer the milk will remain in a condition fit for consumption.

To keep the bacteria out of the milk is entirely impossible, though there are many little things which if observed will materially reduce the number in the fresh milk. To give in detail a few of these which it will be entirely practical for the ordinary milk producer to observe, and to explain the best and cheapest way to prevent these germs from growing so fast will be the object of the following.

Bacteria get into the milk in a number of ways, which are as follows:

1. From the udder of the cow.
2. From dirty cows and milkers.
3. From dusty air.
4. From dusty buckets, strainers and cans.

Nearly all of these contaminating sources can be regulated, to a certain extent, without expense and with very little work. They will be taken up in detail.

The inside of the udder of the cow is never free from bacteria. The greater part of the germs found in the udder are in the foremilk, or the milk contained in the teat, and which is drawn off in the first two or three streams from each quarter of the udder.

As the foremilk contains the greater part of the bacteria, these can be excluded from the bucket by milking the first two or three streams from each teat onto the ground or floor, or into a little can provided for the purpose. This practice would cause but very little if any loss, for this first milk is very poor in quality. With the milk shipper the weight would be lost, but it would be better for the general quality of the milk if the foremilk was thrown away.

There are two or three reasons why an effort should be made to keep cows clean. As many cows are ordinarily kept in winter, the flanks and hind quarters of the animal become plastered over an inch deep with dried manure. It is very easy to see how utterly impossible it is to keep the milk clean when the cows are so dirty. Some of the dirt can not be prevented from falling into the bucket. To keep from being downright filthy, it is necessary to take some measures to keep this manure from getting into the milk. Many a person who would not drink water into which a particle of manure had fallen will drink milk that has an overabundance of it; and, of course, these people would not hesitate a minute to sell such milk for others to consume. Moreover, this dirt contains an almost incalculable number of bacteria, and these are, of course, let loose in the milk as soon as the manure dissolves or the particles are parted by being soaked.

As a measure for the benefit of the cows, it pays to keep them carded and cleaned off to a fair state of respectability in appearance. Almost every farmer knows that it not only adds to the appearance of horses, but also to their general welfare, to keep them well groomed. The same is true of the dairy cow, and time spent in cleaning her is profitable for the welfare and health of the cow, even when the cleanliness of the milk is not considered.

In the best dairies engaged in supplying particularly good milk to a high-class trade, still greater precautions are observed to keep dirt from falling into the milk from the side and udder of the cow. Every milker has noticed that during the process of milking, no matter how clean the cow, a small quantity of hair, dirt and dried scales will fall into the milk. This is prevented by rubbing the flank and udder of the cow with a damp cloth just before milking. Dust or hair will not fall from a damp surface. The cloth for this purpose should not be so wet or

damp that water will drip from the udder, and the washing or damping should not be done so long before milking that the udder will be dry before the milker gets to the cow. Neither should milking be done with wet hands, as dirty milk will drip from the hands into the bucket.

**CLEANING UTENSILS.**—The fourth and last way in which bacteria get into the milk is through improper washing and cleaning of the utensils used in handling the milk. This is very likely one of the most fertile sources of contamination. If a little dirt remains in the corners of the cans or buckets, the bacteria will develop in great numbers and will spread through the milk as it is brought into contact with the can. The number of bacteria that can get into milk in this way is simply incalculable. The strainer, in particular, needs to be looked out for. A great many persons use cloth strainers. The meshes of the cloth hold a considerable quantity of milk which can not be entirely washed out with cold or merely warm water. When this strainer is hung up in a warm place during the day, bacteria could not find a more favorable place to grow. For proof of this notice the smell of an unscalded strainer after a particularly warm day. It has an odor between sour milk and decaying cheese, which is caused by the spoiling of the milk left in the cloth. There are millions of bacteria there ready to go into the can with the fresh milk.

There is reason to believe that the insufficient washing given dairy utensils and strainers results in more harm to the keeping qualities of the milk than the other three sources of the contamination combined. The reason is not hard to explain. The most common way that milk spoils is, of course, by souring. This souring is caused by only three or four species of bacteria, as none of the many other kinds which get into the milk have the power to act on the sugar and change it to an acid. It has been found within the last few years that but a very few of the bacteria which cause souring get into the milk from the udder or from dirt clinging to the side and udder of the cow. There are, however, a great number of these lactic acid forming bacteria present in dirty cans and buckets, and they would, of course, get into the milk and cause it to sour decidedly quicker than it might otherwise.

To be sure that tinware and strainers be free from bacteria requires something aside from clean washing. Good washing will remove the greater number of them, of course; but to get rid of them, or practically all, the utensils must be treated in some way to kill them outright. This can be done in three different ways. Turning tinware bottom up over a steam jet is the best, but very few farms have the convenience of steam. Another way often practiced is to pour boiling water into the can. This would be efficient if there was a plentiful supply of boiling water and it would stay at the boiling temperature. But where there are a number of cans to wash, the water becomes too cool to do good service before it gets to the last few cans. Taking into consideration, too, that not a very large quantity of water is used, as a rule, the conclusion is that the boiling water treatment is little better than no treatment at all, especially where there is any number of cans, buckets and strainers to clean.

Where steam is not available, probably the best means of insuring the destruction of a majority of the bacteria in the utensils is by using a warm solution of some of the well-known washing powders. A good method to be followed in cleaning the tinware would be as follows: Wash first with water, at about 90° to 100°, with a stiff brush (never use a cloth for washing tinware of this sort). The brush will get into all corners, and when there are any dried particles of milk sticking to its sides it will scratch it loose. One precaution always to be observed is never pour hot water into a can before it has been washed with warm water, as the hot water cooks the milk to the side of the vessel and makes the washing more difficult. After washing thoroughly with warm water, rinse thoroughly with warm or hot water in which washing powder has been dissolved at the rate of one pound to fifteen gallons of water. After the vessels have been treated in this way, they should be rinsed out with a little cold water to free them of the washing-powder solution. This treatment is much easier than it reads; in fact, it requires but very little more work than when the steam jet is used, and is nearly as efficient. The expense for washing powder is hardly worth considering. It might be stated in passing that where there is any disinfecting to do around a dairy, these washing powders are efficient and safe, and have none of the objectionable features attached to many of the other well-known disinfectants.

Of course, in the foregoing discussion many of the features considered are rather ideal, though they are practiced by the very best class of dairymen, who are getting a sufficient price for their milk to warrant their going to the extra expense.

The following points should be observed by even the most humble dairyman, to insure getting a quality of milk on the market that will not be turned down by the buyer:

1. Keep the cows clean, for it pays with the cows.
2. Stir up no dust at milking time.
3. Take special care in washing and sterilizing tinware and strainers.

### Notes on Silage in the San Joaquin.

Mr. F. B. Marks of Dos Palos writes to Hoard's Dairyman about his experience with silage in an interesting way. He says alfalfa silage is certainly a success here, but hardly equal to corn.

Our first crop of alfalfa is, on old ground, always full of foxtail and these sharp beards are very troublesome in hay. In the form of silage they are as soft as silk. My experience, covering four years, convinces me that well matured alfalfa makes the best silage. The foxtail is then nearly mature and water is run into the carrier continuously from a 4-inch pipe. Not quite so much is added, though, as is present in immature alfalfa, for the juice seldom exudes from the bottom of the silo as it does when very green grass is put in.

I am grading up a herd of all sorts of native cows by using a pure-bred Jersey bull. I have not been at it long enough to tell just what improvement will be made, but the heifers last year averaged as well as the old cows. The average yield per cow was 220 pounds of butter fat, returns \$54.20, plus calves and skim milk for pigs. I am aiming now at the 300-pound mark, and when I reach it will try for 400 pounds.

**CUTTING HAY FOR STORAGE.**—About cutting hay direct from the field for storing away, I will say the immense feeding farms of Henry Miller surround us on nearly all sides, and this experiment was tried here last year. It was so successful that his head superintendent told me they would put in 36-inch machines (they now use 24-inch) and cut all hay as it came from the field within two years. Hay so cut packs more closely than long hay. I built a little hay barn last fall, 16x24, on the ground, with 16-foot posts. I filled it to the plates, with no tramping except what was done in scattering the feed (twice a day) and put in twenty loads. It would have been impossible to get in ten such loads, uncut, with any reasonable amount of tramping.

## THE ORNITHOLOGIST.

### Notes on California Birds.

Prof. F. E. L. Beale, of the United States Department of Agriculture, is about to finish his studies of California birds in the orchards and vineyards, and will soon return to Washington to prepare his report, which will be of great value and a guide to all fruit growers in their attitude toward the feathered folk. Prof. Beale has devoted eleven years to the examination of 20,000 bird stomachs. He is the head of the economic ornithology at the United States Department of Agriculture. He was sent to California in response to the cry of the bee men and fruit men, that the birds are eating up their profits.

"We will prove or disprove their claims," says Prof. Beale to a writer for the Los Angeles Times, "by the examination of the stomachs of your birds; and if a remedy can be found to reduce the destruction of the linnet to the fruit or the king birds to the bees, it will be offered."

It is the work of the department of ornithology to study the economic production and distribution of birds and mammals in the United States, and to pass on the advisability of any importations. The department has in fifteen years accumulated, catalogued and preserved a collection of over 50,000 bird stomachs, and is in a position to place any bird on trial as to its economic assistance or injury to agriculture and mammal life.

The method is through the study of its digestive apparatus, and this study deals with minute things. Most of the work is done with the microscope magnifying four or five times, but at times more powerful lenses are used in the study of starch granules. As an example, finding these starch granules he is able to know what kind of grain the bird has eaten.

Botanists know little of seeds, especially weed seeds, which birds eat freely, and it is part of the work while here to make a collection of seeds for reference. One seed, of the myrica, or wax berry, defied investigation for three years, but was discovered. On the outside of this seed is a coating of wax. Under this coating is a layer of granules, surrounding a solid nut in the center like the paving stones in a street. In the stomach of the bird it would seem that there were three kinds of seeds, after the parts separated, while the whole berry is no bigger than a very small pea.

The seed of the poison oak is similar to the wax berry, and Beale says: "Herein some of your birds cause trouble. Many of your birds eat this seed for the wax, and then the hard seed part is disgorged, and will grow if it falls on the soil. This is the reason poison oak almost always grows along fences." California birds also eat the pepper berry and disgorge it again, and when it falls upon a tin roof and rolls along, often puzzles one who hears it. In Kansas, fossils, glass beads, rubber bands and buttons have been found in the stomach of the crow.

"Perhaps the most interesting eater of California birds," said Prof. Beale, "is the road runner. I find they eat lizards, small snakes, mice, gophers, bugs, and I believe are an enemy of the tarantula. Your linnet is destructive to the fruit, because the



bird is superabundant and has no enemies but the popgun.

"The turtle dove so common in California is a good bird to destroy weeds. In one stomach I found over 9000 weed seeds, representing about twelve varieties. In the stomach of a red-winged flicker I found over 5000 ants, the kind so offensive to the sense of smell. The stronger the flavor of the insects the better birds seem to like them, and science cannot discover why poison oak, for example, hurtful to man, is harmless to birds.

"The black scale is a bad thing in this country, but there are three birds here that eat it freely—the bush tit, Bullock's oriole and black-headed grosbeak. Owls and hawks are generally thought of as pests, but they do much more good than harm in killing mice, rats, moles and insects. The butcher bird or shrike is a freak, having the head of a hawk, but no claws to hold its prey. It pins small birds to the forks of trees or hangs mice on barbed wire or thorn bushes, there to be eaten at leisure.

"Even as people eat more oysters at one time of the year than another, so have birds their seasons of fruits and relishes. One reason birds damage fruits in California is because there are so few wild fruits or berries. The mocking bird loves the domestic blackberry, at times almost living on it."

So far President Beale has found little ground for the claims of the California bee men against the king bird.

## THE VETERINARIAN.

### What Should be Done With Tuberculous Animals.

Dr. Veranus A. Moore of Cornell University, who, as our readers already know, is spending the summer in veterinary investigation in this State under the auspices of the University of California, holds views upon bovine tuberculosis which may well be described as rational and conservative. He recently prepared a report for the New York Department of Agriculture on the general subject of bovine tuberculosis, of which we have secured a copy. Certain pages bearing upon the attitude of the owner toward this disease in his herd and the way in which he can eliminate it with least sacrifice are of wide importance, and we desire our readers to consider them carefully:

**WHAT SHALL BE DONE?**—In times of destructive epizootics, the disease has been eliminated by the actual killing of all affected, and in some instances, exposed animals. In these cases the owners were compensated from the State or national treasury because the elimination of the disease was for the good of the many. It was thought some years ago, and such views are still entertained by many people, that such treatment should be applied to bovine tuberculosis. The accuracy of the tuberculin test furnished a means by which all infected animals could be detected and their immediate destruction seemed to be desirable. In some States such a crusade against the disease was started. It was found, however, when the extent of the disease was appreciated, that the cost would be so enormous that legislative bodies hesitated to make the necessary appropriations. A further and more telling opposition to the immediate official eradication of infected animals with indemnity appeared in the change of sentiment brought about by a better understanding of the real nature of the disease as revealed by careful scientific investigations. Thus the pendulum swung to one extreme for the sanitarian who felt that much of human tuberculosis came from cattle, and to the other for the agriculturist who has been slow to recognize the importance of the disease. At present, the feeling is strong, and justly so, against using dairy products from tuberculous cows, but the diseased cattle are left, in this State, with the owners to decide what shall be done with them. It is because of this that the question of the disposition of such animals appeals more forcibly than ever before to the cattle owners in our commonwealth.

**A LOSING COURSE.**—It has already been pointed out that the disease spreads rapidly among cattle when once it is introduced into a herd, and that after a few years have elapsed the animals will begin to die, causing a steady loss to the owner. The fact that calves and swine fed upon the milk of tuberculous cattle often contract the disease, adds in many instances another loss. With these purely economic considerations, regardless of the danger to the lives of people, especially children, who consume dairy products, it is very evident that every cattle owner wants to have, and for profit must have, his herd free from this disease. The farmer is necessarily anxious to know the facts relative to the testing and the disposition of reacting animals.

**WHEN IS THE FLESH WHOLESOME?**—It is an unfortunate fact that tuberculin will cause the same reaction when the tuberculous lesions are still local and exceedingly small that it does when the disease is generalized and possibly far advanced. It has already been shown that animals often appear to be in excellent condition when the lesions are very extensive. It is impossible from the test alone, therefore, to determine the extent of the disease in the affected

animal. The experience of the past has clearly shown that usually when a number of animals react in a herd, especially when the disease was not suspected, that a large percentage of them are but very slightly affected. I have seen as many as thirty-five of forty cows destroyed from one herd after the tuberculin test that were so slightly affected that they would, if they had been killed by a regular butcher, have passed without a suspicion of disease. In a number of instances quite as large a percentage of the animals have been equally as little affected. Under the existing New York State law, the Department of Agriculture must condemn all affected carcasses, no matter how slight the lesions may be.

**EXISTING POLICIES.**—If we look to the practice in other countries, and even to that permitted by the legislation in at least two of our sister States, we find that in lieu of compensating the owner of the animals from the public treasury, and as a partial restoration for property loss, the unaffected parts of the animals, when the disease is not too extensive, are allowed, after proper inspection, to be sold for food. If the nature of the morbid process is taken fully into account, it will be evident that in those cases where the lesions are local, i. e., restricted to a single part, there is very little danger of tubercle bacteria being elsewhere in the body. Basing their action upon this biological fact in the history of the disease itself within the body, there seems to be no reason why the methods about to be mentioned and in actual practice are not both safe and equitable. That the results issuing from them have not been attended with bad results argues still more strongly for their adoption.

It was resolved at the International Veterinary Congress held at Baden Baden in 1899 "that there is need for a general inspection of food animals both before and after slaughter. It was recommended in regard to tubercular animals that all parts of the body actually afflicted with tuberculosis should be destroyed, together with the lymphatic glands adjacent or attached thereto, and that when there is evidence of blood infection or recent generalization of the lesions confined to the viscera, the meat is considered safe for general consumption. Where the lymphatic glands in the muscular tissues are tubercular, or where the local character of the disease and the harmlessness of the meat are in doubt, it is recommended that it should be sterilized by thorough cooking and sold only in this condition."

**THE UNITED STATES MEAT INSPECTION LAWS AND REGULATIONS.**—In the federal meat inspection service carried out by the Bureau of Animal Industry, United States Department of Agriculture, it is provided that only advanced or generalized cases of tuberculosis shall be condemned. In slight and local tuberculosis, only the diseased parts are condemned and the remaining healthy portions of the carcass are used for food.

The recently enacted laws of Massachusetts and Wisconsin render it legal for tuberculin reacting animals to be sold for food, subject to inspection under the federal meat inspection laws. The federal laws permit animals to be used for food that are affected with localized tuberculosis and are so determined by a Government inspector. If this privilege is granted to the large packers, whose products are officially inspected, the question naturally arises why should not the same privilege be extended to our State officials, whereby they may procure for the small owners the meat value of their reacting animals if they pass a like examination? At present the reacting animals are, under the law, doomed to destruction and the owner must bear the burden of the loss. As a consequence, cattle owners, in ignorance of the real trouble, sell their cows that are not "doing well" to the local butcher, but leave behind those that are continuing to spread the disease until in time they, too, go to the shambles. If, however, these animals could be tuberculin tested at the time of the first suspicion of any trouble and the reacting animals fattened for beef and sold for their meat value, subject to official inspection, the consumer would be protected, and partial loss sustained by the owner would teach him that it is financially expensive to allow tuberculosis to exist in his herd. If the State does not condemn and destroy all tuberculous animals and compensate the owners it seems just that the law should permit the owners to eliminate the reacting animals from their herds with as little loss as possible. Experience has shown that this can be done under the regulations previously mentioned with virtually no danger to the public.

**GENERAL CONCLUSIONS.**—From the various facts that have been brought to light concerning the extent and nature of bovine tuberculosis, together with its economic and sanitary significance, the following conclusions seem to be justified:

1. Bovine tuberculosis is ordinarily a very insidious disease. It is slow in its development, requiring from a few months to several years to destroy the animals. Death results from the invasion and destruction by specific bacteria of tuberculosis of organs necessary to life and not as the direct result of bacterial poisoning.

2. Bovine tuberculosis is widespread. It is estimated that from 2% to 4% of the dairy cattle of the State are affected. It is much more prevalent in some districts than in others.

3. Bovine tuberculosis is disseminated very largely by the introduction of tuberculous animals into uninfected herds. When such infected animals, although in apparent health, are placed among healthy ones the disease often spreads very rapidly. This explains the rapid dissemination of the disease in certain herds following the purchase of new animals.

4. Where animals are brought into a healthy herd only after a thorough examination and a failure to react to the tuberculin test properly administered, the disease does not appear save in very rare instances where some other source of infection exists.

5. By the use of tuberculin all the animals in a dairy that are infected, even to a very slight degree, may be detected.

6. Tuberculosis causes more losses than all of the other diseases of cattle now existing in this State. This is charged not only to the loss from the death of the animals, but to waste of food; the diminished dairy products due to the poor condition of the infected animals; the interference with breeding; the transmission of the disease to animals that are fed upon milk such as calves and swine and the diminution in the market value of the well animals in the infected herds.

7. The bacteria of human and of bovine tuberculosis belong to the same species, but as they are found in the lesions of men and cattle they are differentiated from each other by distinct varietal differences. The bacterium of human tuberculosis is rarely the cause of death in cattle. There is much evidence that the disease is transmitted from cattle to the human species less frequently than it was formerly supposed.

8. A study of the nature of tuberculosis, its manner of dissemination, and the great loss it is causing the cattle raisers and owners of the State, together with the existing practices and laws, suggest the necessity of legislation in at least two directions, viz.: (A) Laws to prevent the entrance into this State from without of tuberculous cattle. (B) A law legalizing the sale and use of animals that react to tuberculin for food when they are in a suitable condition and upon post-mortem examination by an authorized inspector are found to be in such a condition that they would be passed as wholesome under the federal meat inspection regulations.

### Answers to Inquiries.

By E. J. CREELEY, D. V. S., Dean of S. F. Veterinary College, 510 Golden Gate Avenue.

#### INFLAMMATION OF THE BOWELS.

TO THE EDITOR:—We had a horse which was turned out on dry stubble for forty-eight hours. The next morning, after bringing him home, he began to paw and act as if he had colic. After giving him the usual remedy for such cases, he stood for three days without a movement of the bowels, and then only after a liberal use of oil. After his bowels moved he seemed to feel better and was turned on green feed, but in two days he began to show colic signs again, and died just a week after the first sign of sickness. The horse looked good all the time—his eyes were bright and he did not gaunt up or look bloated at any time, and the respiration and pulse were normal. After death we cut him open and found the space around the paunch, intestines, etc., to be filled with bloody water—at least five gallons—and on opening the paunch it also was full of bloody water, and only about a bucketful of grass. Any information you may be able to give as to the probable cause will be greatly appreciated.—SUBSCRIBER, Niles.

It was a case of inflammation of the bowels.

#### SWINE PLAGUE.

TO THE EDITOR:—I have raised this year some 200 pigs to the weaning point. Pigs are from healthy sows, and both sows and pigs have had the best of feed and care. The latter, however, when about ten pounds in weight and less began to dwindle away and finally die. In most cases a cough accompanies the falling off. No other ailment is apparent. This is a meager description, but is all there is to describe. The loss so far is over 50% and pigs still dying. Hog cholera is not the trouble. Can you tell me through your columns the probable cause of this trouble and suggest remedy?

It is a plain case of swine plague. This disease and what can be done for it were quite fully discussed in the PACIFIC RURAL PRESS of June 27, page 405.

#### AN OPERATION REQUIRED.

TO THE EDITOR:—Will you kindly advise me, through the columns of the PACIFIC RURAL PRESS, in regard to a mare who has been ailing for about two months. She is swollen between the fore legs to a great size and it feels solid to the touch. She is very stiff from effects of it. In one place it looks as though it would break, as there seems to be a small scab there, but she has been in the same condition for so long without showing any signs of improvement. She looks thin too. She is a driving animal and used in the buggy only. She has done no hard work nor has she had any hard drives.—MRS. S. H. HIGGINS, Tracy.

If this swelling fluctuates it should be freely opened and treated antiseptically. Syringe out with a 5% solution of lysol, pack it with bichloride gauze and apply on the outside iodoform ointment. The proper thing to do would be to call in the best veterinarian in your vicinity, as there is a possibility of losing her if the operation is not properly performed. Call



upon Dr. J. H. Eddy or Dr. John Waddle of Stockton or Dr. J. Sullivan of Suisun.

### Fighting Glanders.

Glanders, says the Biggs Argus—the disease of horses which is so contagious and difficult to stamp out—exists in Butte, Glenn, Colusa and Tehama counties at the present time to an alarming extent. It is folly to longer expect that the importance of the owners of horses killing their glandered stock—the only method of fighting the disease—will be sufficiently realized to wipe out the disease on the quiet without the outside world knowing of the misfortune. Some time ago Dr. Kennon, the local veterinary surgeon, found that glanders existed among some of the mules and horses engaged in grading work in this locality, and condemned several head. The owners protested, but, desiring to take no unnecessary chances, sent for a veterinarian of San Francisco, with whom they had sufficient dealings to establish their absolute confidence in him. This veterinarian went even further than Dr. Kennon, for he condemned thirty-two head to be shot, and they were killed.

John Crouch, who has several hundred head of horses and mules on his ranch, has had a siege with glanders, and has probably lost in the past few months nearly one hundred head. He is facing the problem in a practical manner and now proposes to stamp the disease out, so far as his stock is concerned. Dr. Kennon is making elaborate tests of all his stock, regardless of whether they bear outward signs of the disease, and any animal which, subjected to the serum test, develops the symptoms showing that it is afflicted with the disease is condemned to be killed. More than this, a disinfecting machine was received by Mr. Crouch recently, which will be used in disinfecting all of his stables and yard fences, and every part of the corrals where the stock have been accustomed to be. In this way he will doubtless make a great saving in the end.

Owners of horses should not fail to realize that by fostering glandered stock they are endangering their healthy animals and the animals of others, besides laying themselves liable to severe punishment under a reasonable law. The loss may fall heavily on some, but they will profit in the end by killing every animal as soon as the animal is known to have glanders.

### THE FIELD.

#### Asparagus Growers' Meeting.

A meeting of asparagus growers of the State was held in San Francisco on Saturday, July 11, to discuss the matter of the asparagus rust and provide means for an investigation looking to the suppression of the same. There were present about thirty of the leading asparagus growers of the State, representing over 5000 acres of this crop situated in the principal asparagus sections. Representatives were also present of the Hickmott Asparagus Canning Co., the California Fruit Cannery's Association, and the Golden State Asparagus Canning Co.

Mr. J. W. Nelson was elected chairman and Mr. J. A. Schupp secretary. Prof. R. E. Smith of the University of California addressed the meeting, describing the nature of the rust and its history in this country. It was stated that the University had secured Mr. Smith from the East to investigate this trouble, but that means were necessary to provide for carrying on the work. The growers present were unanimous in their willingness to aid in this matter, and after some discussion as to the best means of accomplishing the desired result it was voted that a voluntary assessment of 75 cents per acre be levied upon all asparagus growing in the State. To carry this vote into effect the following committee was appointed: Robert Hickmott, J. W. Nelson, Henry Voorman, Wm. Meek and E. Schultz, who will proceed at once to collect the assessment as generally as possible. Offers were also made by the canners represented to do their share in this movement for the common welfare.

The season just closed has aroused the growers to the seriousness of the situation, as even from the comparatively slight occurrence of the disease last fall, affected beds have shown a loss of from one-quarter to one-half in this year's crop.

This year's pack, about 250,000 cases (fifty pounds), is worth at least \$1,500,000. Besides this, large quantities of fresh asparagus are sold in markets.

#### The Price of Sugar Beets.

There seems to be an irrepressible conflict between growers and factory owners on the price which shall be paid for sugar beets. It has cropped out quite sharply in this State and has changed the crop on hundreds of acres of land this season. In another case the future price has been raised by one of the California factories to secure larger acreage next season. This being the case, declarations made in other beet growing communities are of some local interest. The Idaho World says that the raising of sugar beets is not one continued round of pleasure, nor a source of such prosperity as some have been

led to believe. The Caldwell Tribune has interviewed G. S. Hill, an old resident of Colorado, who throws light on the subject. Farmers there have been raising beets for \$4.50 a ton, delivered on the cars. They find this does not pay so well as other crops, and now demand \$6. This price must be forthcoming or beet raising will be at an end in that State. The cost of cultivating and gathering the crop in heaps on the field is \$22.50 per acre. To this is added the cost of plowing the ground, seeding, water for irrigation, fertilizing and hauling beets to the railroad. The average production is about ten tons to the acre. Three-year contracts were made with the farmers. After the first crop was grown they found that the soil was about exhausted and had to be renewed by fertilization. Mr. Hill cited an example to illustrate the impoverishment of the soil after a crop of beets has been raised. A neighbor of his planted side by side five acres of beets and five acres of potatoes in ground that was identical in every particular. After gathering the crops he prepared the soil for winter wheat. The two pieces were harvested separately. The beet ground produced thirty bushels to the acre, while the potato ground produced sixty bushels. The Colorado farmers are now rueing the day they signed contracts to raise sugar beets at \$4.50 per ton. The Tribune advises Idaho farmers to carefully investigate before binding themselves, lest they have three years of very unprofitable experience. On the other hand, the situation is very lovely for the factories. Their profits in many cases are so enormous that they dare not publish plain statements of their financial affairs. It is related of one of the Colorado factories, costing \$600,000, that it cleared itself in a run of sixty days. Of the Lehigh factory in Utah, it is said that its stock has to be watered every morning before breakfast to keep it from violating the usury law.

### THE APIARY.

#### Are Bees Poisoned by Yellow Jessamine?

Mr. C. S. Harris has a location in Florida where this plant is abundant, in several places covering nearly an acre of ground, and what he says in the American Bee Kooper is interesting in this State, where the plant is also widely grown for ornamental purposes:

When I began keeping bees and discovered, in the spring, great numbers of bees dying and dead in front of the hives, I supposed they were stricken with paralysis, and yet the symptoms did not appear exactly like those of that disease. Most of the affected were the just-hatched, downy ones, and they had no trembling motion, but seemed stupefied or intoxicated. The old bees affected had the distended, shiny appearance of bee paralysis, it is true, but ordinarily they were few, except in queenless colonies, or where, for any reason, but little brood was being reared. Very fortunately the queens are seldom affected.

After a few seasons I found that this trouble made its appearance with the jessamine bloom, from which the bees stored some honey and considerable pollen, and disappeared entirely with the end of that bloom. One point that made this more noticeable was that the blossoming of this vine is a movable period, varying with the season from December to March, and even April, remaining in bloom four to six weeks. I have discussed this trouble with several physicians, and all of them say it is undoubtedly jessamine poisoning, having almost the same action upon the bee as the poison extracted from the root of the vine has upon the human system.

#### National Beekeepers' Meeting in California.

Mr. J. M. Hambaugh, of Escondido, writes to the Times as follows: Every beekeeper in southern California should bear in mind that the National Beekeepers' Association will meet in Los Angeles and hold a three days' session, commencing August 18th and continuing through the 19th and 20th, and from what can be learned it will be one of the most important and extensive gatherings of beekeepers ever witnessed in the United States, and possibly in the history of the world. It is the event of a lifetime, and it will be many years ere it will again come to the coast.

Already many prominent Eastern beekeepers are preparing to pack their grips for the trip, and it behooves we southern Californians to give them an appropriate and welcome reception. For once let us all go and shake hands, as it were, across the Rockies with our Eastern brethren, and participate in the deliberations that will be mutual to all, for matters vital to every beekeeper in the land will be brought before the convention.

#### Southern California Honey Crop.

Comb honey this year, says the Los Angeles Times, is exceedingly scarce; one authority says the supply is hardly one-tenth what it is usually. From reports

received by the California National Honey Producers' Association from forty-three producers, they state they have only 4000 cases. Many bee men are to be heard from on this point. The average amount of extracted honey per producer (covering hundreds of different reports) is found to be about five tons.

The cause of the short crop this year has been cool, foggy weather. Three months ago conditions following plenty of rain indicated a mammoth output.

Colorado will have only a fair crop, while in the Central States continued droughts, followed by floods, have mightily spoiled the honey situation. This year, certainly, honey means money, and California seems to be better supplied than any other center. England is the principal recipient of our export trade. Only the other day a London firm cabled for a carload shipment from Los Angeles at 41 cents a pound, but since previous advices the price has gone beyond 5 cents.

Association prices, according to a circular issued last week, are as follows, for stock delivered at terminal points (Los Angeles or San Diego): Extracted—White, 5½; light amber, 5½; amber, 4½. Comb—White, 13½; No. 1, 12; No. 2, 10; light amber, 10.

### THE VINEYARD.

#### The Raisin Outlook.

Mr. M. Theodore Kearney, whose departure for Europe we recently noticed, stopped long enough in New York to tell a writer for the Journal of Commerce what he thinks of the California raisin situation and the outlook for this year's sales. This will be read with interest by Californians:

THE ORGANIZATION.—The signing of contracts by growers to deliver to the Raisin Growers' Association, he said, was progressing satisfactorily, and he thought the one-year agreement would be signed generally. Mr. Kearney also said it was rumored on the coast that a new arrangement would be made between the Growers' Association and the Pacific Coast Seeded Raisin Co., whereby the latter would simply seed raisins for the Association; in that event the Association, according to this rumor, would itself fix prices and sell direct to the distributing jobber, and would pay the company a fixed sum for seeding, packing, etc. At present the company, which is composed of leading packers, including the "Big Five," buys raisins at a fixed price in the sweatbox from the Growers' Association and then sells them at an advanced price to the trade. If the new plan which is being talked about is adopted it will make the seeding company practically an employee of the Association; or, in other words, such an arrangement would amount, in effect, to a merger of the two interests with the Association in control of prices, distribution, etc. Mr. Kearney was asked if such an arrangement would be good for the growers. He replied that a great deal depended on what terms might be made with the packers. As yet, he said, nothing had been done in that direction so far as he had heard.

SIGNING CONTRACTS.—"As to the raisin industry, we are going through the usual process of getting growers to agree to deliver to the California Raisin Growers' Association, and matters are now being adjusted which will, I think, result in a general signing up of growers. About 50% of the growers are always tardy and put off signing until the last moment; but, with a one-year agreement, I believe the great majority will sign. The producers want good prices, and they know that they can't get them unless some one stands under the market and steadies it so as to prevent a loss. That is the object of the Association."

EUROPEAN CROPS.—Mr. Kearney's attention was called to reports that the Smyrna raisin crop this season was likely to be very heavy. He was asked what effect, if any, this might have on prices here. "As far as the foreign crop is concerned, the Spanish crop last year, for instance, was very large—in fact, the largest for many years—and owing to the failure of the crop in one district prices ruled high. Nevertheless, practically the entire crop was taken up at home, and there was no effect on the American market. In view of that fact there seems to be no danger of foreign raisins being sent here this year in quantities large enough to affect prices. There is a customs duty on raisins, and, furthermore, it is the policy of the California Association not to put prices so high as to invite foreign competition."

LABOR SUPPLY.—Growers, Mr. Kearney said, were short of help in some remote districts, but, generally speaking, there would not be much loss on this account. One thing the trade should bear in mind, he said, was the higher cost of raising and packing raisins. Some of the expert packers earn as much as \$4 and \$5 a day, the average price paid being about \$2.50 a day. This increased cost, he said, was another reason why growers were entitled to higher prices. The high wages, he said, were due to the fact that the supply of laborers is too limited, and those who are there are able to command a high figure. Farm labor, generally, costs 50% more on the coast than in the East or Middle West.



## Agricultural Review.

### ALAMEDA.

**HEAVY FRUIT SHIPMENTS.**—Niles correspondence Oakland Enquirer: Apricot growers have been busy shipping tons upon tons of tip-top fruit into the markets the past week, and have been receiving prices varying from 2 to 3 cents a pound. As a result comparatively little of that fruit will be dried here. Drying will commence in earnest on the remaining fruit next Monday. Peaches are very scarce and prunes also. Pears and almonds, however, promise a good yield.

**GRAIN AND FRUIT.**—Niles Herald: Grain threshing is now well under way throughout the valley. The crop is yielding fair, while the quality is said to be above the average. Haying is done and presses are in big demand. The yield is heavy and quality good. Shipments are going forward daily and good prices are being realized. Apricots and plums are being gathered. The former are generally light, but the quality is far above the average, as is the size. Shipments are medium, with good prices. There will not be sufficient work at the driers hereabouts to give local help anywhere near full time this season, and many will seek employment elsewhere.

### BUTTE.

**GOOD CROP OF ALMONDS.**—Gridley Herald: The almond orchards in the sheltered valleys which run up into the Buttes are hanging full of nuts, and they are of fine size. The almond industry in the Buttes is a new business, and it is only within the past few years that it became known that the region was especially adapted to that nut. None of the trees are over eight years old, and they have borne continuously and heavily from the time they were four years old. The Chico buyers got in there last year and bought up the crop, and the nuts were among the finest they secured anywhere.

**GOOD GRAIN YIELD.**—W. T. Lam reports that the yield of grain in the Buttes section was especially good for the season, Mr. Lam having cut a piece of barley which brought him fifteen sacks to the acre and a field of wheat that turned out eleven sacks to the acre. He says the general average for the neighborhood will reach ten sacks per acre. The grain is of good quality and the farmers expect a stiff demand for the crop of that region for seed wheat.

**BLACK FIGS.**—Oroville Register: Joe Saccone, just below town, has a tree now about eighteen years old that is remarkable for its fruit. He has picked and shipped sixty-five boxes of ripe figs, each box averaging fifteen pounds. He estimates that he could have obtained thirty-five boxes more if he continued the picking and had saved all the fruit. This would give 1500 pounds for the first crop. The second crop, he says, will yield larger than the first. If we estimate it the same this tree would yield 3000 pounds of ripe figs.

### COLUSA.

**WHAT OUR LAND WILL DO.**—Sun: A. B. Butler cut from ten acres of land on the Moulton place 500 sacks of barley. Jacobson & Retherath cut from a two-acre tract on the Dolan place eighty-five sacks. As this was good barley, they perhaps weighed 110 pounds to the sack. These are given as extraordinary yields, even for the best land. We contend, however, that if the growers will give the land the best opportunity, as to cultivation and water, the land can be made to do vastly more than is now ordinarily brought out of it.

### FRESNO.

**SHIPPING FRESH FIGS A SUCCESS.**—Democrat: George C. Roeding has received returns from his experimental shipment of fresh figs to the markets of the East, and is highly pleased with the result. The shipment was made by pony refrigerator to Denver, Kansas City, St. Louis and Chicago, and consisted of 8-10 boxes. Upon these a net profit of 75 cents per box was realized. Reports show that the fruit arrived at its destination in good shape, and Mr. Roeding is encouraged to believe that a good trade in the fresh fig can be established in the East if the matter is properly handled.

**REEDLEY DRIED FRUIT GROWERS.**—Exponent: The Reedley Dried Fruit Growers' Association has elected the following officers: T. M. Lane, president; E. Archibald, vice-president; W. H. Carpenter, secretary; A. I. Powell, treasurer. Mr. Lane was delegated to sell this year's crop of apricots, the growers to furnish samples.

### KINGS.

**A LEMOORE VINEYARD.**—Leader: "Uncle Joe" Marriott has a ten-acre vineyard that it would be hard to heat, either in growth or production.

Although the vineyard was set out but two years ago, the vines have made a wonderful growth and this season are bearing a heavy crop of grapes—in fact, Mr. Marriott has already been offered \$1000 for the crop off his ten-acre vineyard as it now stands on the vines. The vineyard consists of Zinfandel, Palamino, Blanco Berger and Malvoisa, which are all wine grapes and will be marketed at the Lemoore winery.

**MEETING OF BEE MEN.**—Hanford Sentinel: The Central California Bee Keepers' Association met in special session in the Board of Trade rooms at the courthouse. The principal business before the meeting was for the Association to decide whether or not it should join the California Producers' Association, and then have a delegate to the National Convention of Bee Keepers to be held at Los Angeles on August 18 to 20, inclusive. At the time this report was made, the question was still before the house; but, from the sentiment that seemingly prevailed, the motion probably carried.

### MADERA.

**WHEAT AND BARLEY YIELDS.**—Times: Receipts of barley at the various warehouses in the county have been heavy during the past week. The yield varies from five to eighteen sacks per acre. Wheat has just commenced to come in; the yield of this cereal is about the average for the county—from four to nine sacks on unirrigated land; where there is irrigation the crop is, of course, much heavier.

**FINE FRUIT CROP.**—The fruit crop is all that could be desired in this vicinity. Drying of apricots is over and the crop has been sold at remunerative prices, some growers still holding for higher prices. Among these is W. M. Hughes, who expects to realize 8c per pound for his crop. The first crop of figs was, as usual, light; but the second is very heavy. It has been demonstrated that the fig is one of the most profitable crops here, orchards paying \$150 per acre net, with no trouble as to cultivation or handling the crop. The grape crop of all varieties is as fine as was ever grown in the county. Vineyardists are now preparing for raisin drying, which will commence with some varieties of grapes in about a month. The peach crop is good and is commencing to come into market. The apple growers in the valley and foothills are much elated over their prospects, which are good for a fine crop; six weeks ago many thought the crop had been killed by frost, but this appears to have been an error.

### MENDOCINO.

**HOPS SOLD.**—Ukiah City Dispatch-Democrat: Joe Cunningham and Everett Holliday sold the hops they had on hand this week. It is understood they received between 15 and 16 cents a pound. Up to this week about 1000 hales of hops were being held by growers in this and Sanel valleys. Counting these at 185 pounds to the hale, a conservative estimate of the loss to the growers, by reason of holding, as prices now are, is \$18,500, besides taxes and insurance.

### MONTEREY.

**FINE CROP OF BARLEY.**—Salinas Index: A crop of barley raised on the farm of George Davis, 3 miles southwest of Salinas, farmed by James Storm, is turning out especially well, going a plump fifty pounds to the bushel. The farm will yield 5000 sacks. Mr. Storm has sold part of the barley to Brewer Menke at \$1 per 100 pounds. Henry C. Cosseboom, of Blanco, has harvested fifty acres on the Hitchcock tract, recently purchased by him, a crop of Chevalier barley that goes twenty sacks to the acre.

### NAPA.

**YEARLINGS SOLD.**—Register: A sale of twenty-five yearling thoroughbreds from A. B. Spreckels' Napa farm has been concluded at the Dexter Park Exchange in Chicago. The prices realized a little more than \$500 per head.

### SACRAMENTO.

**HOG CHOLERA UNDER CONTROL.**—Bee: Through the prompt action of M. J. Dillman, chairman of the board of supervisors, and the action of Dr. McCollum, county veterinarian, the hog cholera is under control, if not eradicated on the consumers.

### SONOMA.

**APPLES AND CHERRIES.**—Santa Rosa Farmer: J. A. Fletcher received 5 cents a pound for 18 tons of cherries, principally Royal Anns, the product of 3½ acres of Green Valley land. Four acres of Astrakans and Gravensteins gave 30 tons last year, but he expects 35 or 40 tons this year. The above trees were planted fifteen years ago 22x22, but he would now plant 40x40 at least. He is replacing a 9-acre orchard of peaches with Gravensteins as a more lasting proposition and far more profitable. He has 90 acres of good

Sonoma county land, and knows how to make the farm pay.

**HOP LICE.**—Horticultural Commissioners Allan R. Gallaway and Edward Bremner have drawn up an official report and submitted it to the board of supervisors. Secretary Bremner, who is the field officer, reported that he had visited many hop fields in the county, and in a number had found hop lice, a pest which quickly destroys the vines and fruit. Owing to hot, dry weather, the pest is backward in maturing, but it is predicted that a period of cool, foggy weather will bring it forward with all of its destructive tendencies. The prediction is set forth that the hop crop in this county will be light, the vines being small and the blossoms about ten days premature.

**TOMATO CROP SHORT, PRICES GOOD.**—Heraldshurg Enterprise: The tomato crop of this section will not be as large as last year. The better informed doubt if there will be much over half a crop. There was considerable trouble in getting a good setting, and many tracts had to be replanted several times.

### SAN BERNARDINO.

**BEETS RIPENING SLOWLY.**—Chino Valley Champion: All that now delays the opening of the sugar factory here is the ripening of the beet crop, which is slower than was anticipated. An early opening of the campaign had depended upon a supply of beets from Oxnard, but that supply is not yet available. In fact, the Oxnard factory itself has not yet been able to work nearly up to capacity, so of course no beets could be shipped to Chino. Manager Schroeder and Superintendent Hamilton state that the exact date of opening cannot yet be set. It will not be earlier than July 25, and probably not before August 1. Even at the latter date part of the supply of beets must come from Oxnard.

### SAN DIEGO.

**FIRST GRAPES GROWN IN IMPERIAL.**—Imperial Press: During a portion of the week there has been on sale at the store of Stevenson Bros. Co. a quantity of Seedless Sultana grapes, grown on the farm of Albert Hart. Some week or ten days ago the first ripe grapes were brought to town, but the lot referred to are the first on sale. So far as this first crop of grapes in the valley is concerned, it is found the first fruit ripens about July 1, though it is probable that more mature vines will bring in ripe fruit considerably before that date, probably by June 15.

### SANTA BARBARA.

**MUSTARD AND OTHER CROPS.**—Lompoc Record: The mustard harvest, as a rule, is disappointing. It was thought earlier in the season that at least an average crop would be taken off, but it will fall much below the average. It is too early to judge of the bean crop. The barley and oat crops are fairly up to the average, with good prices prevailing. Common barley is bringing 90 cents and Chevalier \$1.10 per cental.

**THE BEET HARVEST.**—Beet harvesting in this valley will begin in a few days, and in another week the sugar factory will be running. The beet crop in this valley is fully up to expectations. The percentage is high and an unusually long campaign is looked for.

### SANTA CLARA.

**PISTACHIOS PROGRESSING.**—Rev. A. Fuller of "Genlistan" Saratoga has returned to Antiah, Turkey, to complete his term of service for Central Turkey College. Rev. Wm. Farles, M. D., medical missionary of the Presbyterian Board, is occupying President Fuller's house with his family, and is expecting good results in health. Notwithstanding the dry spring, more than 200 of Mr. Fuller's young pistachio trees are living.

**PRUNES.**—San Jose Herald: The prunes in the vicinity of Los Gatos continue to look well, and will apparently be of excellent size. Of course, the fruit of this district is not quite so large as that of the irrigated fruit farther down the valley, but where it lacks in size it makes up in flavor and saccharine. Growers are talking 3½c basis, but, as packers are selling freely on a 3c basis, and as some sales are being made both in England and Germany on a 2½c basis, either the grower will have to accept about a 2½c basis or the packer will drop some of his good money.

### SANTA CRUZ.

**FRUIT NOTES.**—Watsonville Pajaronian: Very few apple sales have been reported in this valley lately. Numerous prospective buyers have been visiting the orchards, but orchardists are holding for better figures.—A certain fruit grower estimates the value of each blackbird on his place at \$5—that is, each bird will save him \$5 annually by destroying fruit pests. There is no question about the blackbird being an active pest destroyer.—It is pleasing to note that several orchardists

who loudly predicted at the beginning of the codlin moth investigation in this section that spraying would prove a failure, have experienced a change of opinion since seeing some of the results obtained, and are diligently engaged in spraying their own orchards.

### SONOMA.

**GOOD PRICE FOR A COLT.**—Petaluma Argus: Egan Bros. have sold to James Gregory of San Francisco a two-year-old colt for \$250. The animal has never had a strap on it. The colt is by Seymour Wilkes out of an Electric mare. This shows that there is still money to be made in raising fine horses.

**IRRIGATING HOP YARDS.**—Sebastopol Times: R. W. Peterson and S. W. Purington, two of the most prosperous hop growers of Sonoma county, are now irrigating their hop yards, and they expect a much larger yield than that of last season. The hop lice, which did considerable damage in a few yards in this neighborhood last season, have failed to put in an appearance thus far. Growers do not fear any damage from that source.

### SUTTER.

**FRUIT TRAY CLEANER.**—Independent: A machine for cleaning fruit trays is in operation at Rancho Sutter and about 800 to 1000 trays are cleaned per day. The principal part of the machine is a brush in the form of a cylinder the width of the tray, which is run by a gasoline engine. The trays are fed into the machine and the brush quickly sweeps off any accumulation on the same.

**LARGE ACREAGE OF TOMATOES.**—There are 278 acres in young tomato plants within a radius of 4 miles of Yuba City that will furnish material for at least 100,000 cases of canned goods next fall. This will extend the season into November.

### TULARE.

**AUSTRALIAN WHITE WHEAT.**—Visalia Times: R. O. Newman's 320-acre crop of Australian white wheat at the Cottonwoods is now being harvested and is averaging ten sacks per acre. It was grown on summer-fallowed land and is a fine product. In exchange for flour he was allowed \$1.40 per hundred for a small lot of it. His barley—50 acres—yielded eighteen sacks per acre. Jesse Newman and Harry Newman, who are farming 1000 acres to wheat in the same neighborhood, will harvest about seven sacks per acre.

**A LONG HARVEST.**—Harvesting is in full blast on the Glide ranch, near Oroville. The 3000-acre crop was put in by J. R. Reed, who recently sold the property to Mr. Glide, but Mr. Reed is still in charge of it. Harvesting began on the 10th of June, John Haesey and Mr. Heitzig of Tulare each operating a combined harvester. It will take until about the 21st of this month to complete the work. The yield runs all the way from four to eight sacks per acre.

**GOOD GRAIN YIELD.**—Visalia Delta: Luke Hall, a well-known rancher of the Stone Corral country, is busily engaged in harvesting his grain at the present time, and he says it is turning out exceedingly well. He has about 350 acres that will yield ten sacks to the acre. Some of it already thrashed out over twelve sacks to the acre and the wheat is of excellent quality. He says there are hundreds of acres of wheat in that vicinity just as good.

**SUMMER-FALLOWED LAND PAYS BEST.**—Porterville Messenger: The harvest season is on in good shape. The header crews have disappeared and the steam thrasher is cleaning up the stacks of wheat so fast that within a few days there will be nothing left but the white stubble, and that is so short this season that a man has to look twice in a place to see it; yet there was some good wheat. J. R. Wigley had two sections that went over six sacks to the acre. This grain was raised on summer-fallowed land.

### VENTURA.

**BIG BERRIES.**—Oxnard Sun: Porter Bros., near Oxnard, are growing some very large blackberries. In a sample box every berry was 1½ inch long, while some measured 2 inches.

### YUBA.

**WHEATLAND HOP CROP.**—Marysville Democrat: The weather of the past week has been very beneficial for the hop crop along Bear river, and the hops are forming rapidly. The growers expect to commence the harvest about August 1 and already people are arriving in Wheatland to find employment in the fields. The growers are anxious to secure white pickers and are making every effort to obtain names in advance of the busy season. If the weather continues to favor the hops, the yield will be equal to or a little in excess of that of last year, and between 2000 and 3000 people will be given employment.



## THE HOME CIRCLE.

### Good Country to Live In.

The German emperor and I  
Within the self-same year were born,  
Beneath the self-same sky,  
Upon the self-same morn;  
A kaiser he, of high estate,  
And I the usual chance of fate.

His father was a prince; and mine—  
Why, just a farmer, that is all.  
Stars still are stars, although some shine,  
And some roll hid in midnight's pall;  
But argue, cavil all you can,  
My sire was just as good a man.

The German emperor and I  
Eat, drink and sleep the self-same way;  
For bread is bread, and pie is pie,  
And kings can eat but thrice a day,  
And sleep will only come to those  
Whose mouths and stomachs are not foes.

I rise at six and go to work,  
And he at five and does the same,  
We both have cares we can not shirk;  
Mine are for loved ones; his for fame.  
He may live best, I can not tell;  
I'm sure I wish the kaiser well.

I have a wife, and so has he;  
And yet, if pictures do not err,  
As far as human sight can see,  
Mine is by long odds twice as fair.  
Say, would I trade those eyes dark brown?  
Not for an empress and her crown.

And so the emperor and I  
On this one point could ne'er agree.  
Moreover, we will never try.  
His frau suits him, and mine suits me,  
And though his sons one day may rule,  
Mine stands A1 in public school.

So let the kaiser have his sway,  
Bid kings and nations tumble down,  
I have my freedom and my say,  
And fear no ruler and his crown;  
For I, unknown to fame or war,  
Live where each man is emperor.

—Boston Globe.

### The City Poet on the Farm.

Oh, for a life in the country free,  
Where the sighing wind in the sweet-corn  
tree  
Mingles its music, drowsy and low,  
With the song of the milkmaid, as, to and  
fro,  
Through the sunny pastures she skips  
about,  
Milking the milkweeds with many a spout.

How sweet are the wee white Leghorn  
lambs,  
That scamper about with the half-grown  
hams,  
Barking in glee at the farmer's lad  
As he wades in the brooklet, fishing for  
shad,  
While out through the barnyard come  
strident notes,  
For the farmer is busy a-shearing the  
shotes.

Oh, a country life is the life for me,  
Where the neighing calves go frisking  
free;  
The swallows cackle at sunset hour,  
As they sip the dew from the whole wheat  
flour,  
And early to roost the ravens go,  
For at morn they must clap their wings  
and crow.

—The Journalist.

### The Passion Flower.

To feel that I was alone in the world  
was nothing new, but I had never re-  
alized it so thoroughly. So pathetically  
till the morning when John came to say  
"Good-by." When we parted, stand-  
ing with clasped hands and looking for  
one brief second into each other's eyes,  
something I had never known before  
thrilled through me.

"Good-by, Bessie! I will write to  
you. Don't forget to answer my let-  
ters. Good-by!"  
He was gone and all the air seemed  
chill and dark.

"The first bell has rung, Miss Cam-  
eron; and will you come home to lunch?  
my mother says."

The child's face forced me to rouse  
myself.

"No; tell your mother not to-day,  
and get your hat; I'm ready."

Three weeks later I got my first letter  
from John. It was brief and I knew it  
by heart when I read it through; and  
I read it each day till the next one came.  
With the second one I received a little  
box in which was packed in moss a plant

which the florists call "Passiflora—  
Constance Elliot."

It reached me on Good Friday. East-  
er was late that year, and I set the  
plant in the ground without fear of  
frost. I had never seen the flower, and  
it was sweet to think that John re-  
membered how I had once wished to  
have one in the tiny flower bed just be-  
neath my window.

John's letters were short and not  
frequent; but I was satisfied that he  
wrote at all. I knew how busy he was;  
but I had plenty of time to spare, and,  
as I told him gayly, wrote enough for  
two.

The spring melted into summer, the  
"holidays" had come and my school  
closed not to reopen till the first of  
September. It was a hot season and I  
was tired; so I arranged to spend my  
holidays in a little farmhouse near Ni-  
agra. But I had not yet set the day on  
which I was to start, because there  
was a splendid bud just ready to flower  
on my passion vine.

"Will you be going to-morrow, Miss  
Cameron?" little Etta asked, as I  
stood looking at it.

"Yes, Etta, perhaps; for I think  
that bud will be opened by morning.  
What's that you have? A letter for  
me?"

"Oh, yes; I was forgetting—the  
postman gave it to me as I came in the  
gate."

Slowly opening my letter, I moved  
toward the house and sat down  
to read it on one of the steps that led  
to the door. It was a short letter, as  
usual, and began abruptly:

Have I told you about her, Bessie? But  
no, I have not, for I hardly dared tell my-  
self! They say women are quick, and  
maybe you have read my secret between  
the lines, and it won't be news to you that  
I have lost my heart down here among  
the mocking birds. Ay, Bessie, I have  
lost my heart to a sweet bird as bewitch-  
ing as one of her own 'mockers.' It was  
gone so hopelessly that I hardly dared ask  
if I might find another in place of it—but  
what matter how I learned the sweet  
truth? A look, a word and our hearts were  
beating in time to each other forever  
and forever! We are so happy! \* \* \* Dear  
little friend, you who always shared my  
happiness, and to you first of all I send  
the good news.

Ever your friend and brother,

JACK.

How long I sat there staring at the  
letter I don't know. I didn't read it  
over—there was no need. Each word  
was burned into my brain. I didn't  
faint, but presently I began to tremble,  
my teeth chattered, and I felt cold. I  
got to my room somehow; there I lay  
down, meaning to rise by and by and  
go to bed as usual, but I didn't think of  
it again. To all intense feeling, whether  
of pain or joy, there is no time. It  
seemed to me but a minute when I felt  
the morning sun shining in on my wide-  
opened eyes. The first sound I heard  
was the voice of little Etta outside my  
door.

"May I come in? Oh, you are  
dressed already, Miss Cameron! But  
what's the matter? Aren't you well?  
My, but your face is white—silvery  
white—like the leaves of the beautiful  
flower. Oh, but come an' see it, Miss  
Cameron! It's bloomed, and there  
was never anything so pretty!"

Slowly and mechanically I followed  
the child.

"It looks innocent and sweet like an  
angel, Miss Cameron. Why do they  
give it such a name? To be in passion  
is to be angry—how could they call it  
an angry flower?"

"It doesn't mean anger, Etta. Lis-  
ten and I will explain to you. 'Passi-  
flora—from passion to suffer, and flora, a  
flower. The name was given from the  
resemblance of various parts of the  
plant to the instrument used in the  
Crucifixion. The three nails, one for  
the feet and two for the hands, are the  
stigmas; the five anthers indicate the  
five wounds and the crown of thorns  
with rays of glory are represented  
by the corona. The wicked hands of the  
persecutors are shown in the finger-  
shaped leaves, while these long curling  
tendrils show the scourges which were  
used by the mob of soldiers.'"

"How wonderful that a flower can  
show all that, Miss Cameron!"

In the afternoon I took the train for

Niagara Falls. I staid one week. One  
day a great longing came to me to see  
my passion vine, and to lay its one ex-  
quisite flower against my lips. That  
night I was in my little room, and it  
was sweet to be kissed and welcomed  
by Etta. There were three flowers in  
bloom. I cut one for the child, and one  
I laid on my wildly pulsing breast;  
tears rained down on its pearly petals,  
and then the burning ache slowly left  
my eyes and heart. That night I  
answered John's letter—a few kind  
words. After that I heard from him at  
long intervals for a time, and by and  
by not at all.

The years went by; I had become a  
fixture in the school where I had  
taught since I was sixteen; and little  
Etta had grown to womanhood. The  
passion vine had thriven. I cared for  
it with the devotion of a mother for an  
only child, and I had my reward. From  
June till frost came it covered my win-  
dow, its glossy, green leafage starred  
with glorious flowers.

One evening Etta Munro came to  
say that a gentleman and a little girl  
were in the parlor waiting to see me.  
He had given no name, and when I  
looked on his face I did not wonder  
that Etta had failed to recognize him.  
To my eyes, too, he seemed to be a  
stranger, but my heart throbbed as if  
it would burst.

"John," I cried. "Do I then see  
you again? Ah, how long it has been!  
And this is your little girl?"

She came to me at once, putting a  
slender, satin-smooth hand in mine.

"Elsie," said her father, "this lady  
is my friend, Miss Cameron. She is  
named for you, Bessie, but I call her  
Elsie because for me there can be only  
one Bessie."

"Oh John! How good of you!—let  
me kiss you, my darling!" And I  
pressed my lips to the lovely rosebud  
mouth that was raised to mine. Never  
had I kissed any one as I then kissed  
little Elsie. All the yearning, hungry  
love of years was pressed into that fer-  
vent, tender, passionate kiss.

"I hope you can love me a little,  
dear," I said, tremulously.

"Any one could love you a little, but  
I shall love you very much."

"How old is she?" I then asked of  
John.

"Seven years," he answered. A look  
of keen pain passed over his face, and  
I turned away, not to see it. He  
moved away a step or two and brought  
me a chair. Elsie brought a little  
"cricket," as Etta called it, and  
sat down close beside me. John had  
seated himself at a slight distance, and  
when I glanced at him I saw that he  
had quite mastered his emotion.

I saw now that Elsie was in mourn-  
ing. Hitherto I had been too much  
agitated to observe her closely. She  
was exquisitely beautiful, tall for her  
age, and with grace and dignity that  
accompanied perfect symmetry of form.  
Her eyes were very dark, large and  
lustrous, with long, black, curling  
lashes and finely curved brows. Her  
beauty, I thought, must have come  
from her mother—that fair Southern  
"mocking bird;" but the rippling yel-  
low hair that fell halfway to her waist  
she had from her father. She wore a  
simple frock of some soft woolen stuff,  
black without even a knot of ribbon as  
an ornament. Her hat was of fine black  
straw, trimmed with narrow ribbon.

"Black suits her! She has no  
mother."

"Oh, John," I said, with a scarcely  
suppressed cry, for his tone was ter-  
rible, "forgive me! I was afraid to  
ask—you have lost her?"

"Yes, we have lost her."

"How long ago?"

"Elsie was just three years old."

He rose and crossed over to the win-  
dow. He stood looking out for many  
minutes, and I feared to break the  
silence. His was a sorrow too deep for  
words, and I felt helpless before it.  
But I could not take my gaze from him.

Presently he turned from the win-  
dow, and came and sat beside me.

"We are old friends, Bessie, and I  
may ask a favor of you. I have come  
back here to stay, at least for the  
present. I am to represent this end of  
our road. It is easy work compared  
with what I had when I first went

South. I have been working hard, too  
hard; and for Elsie's sake I must not  
die yet. Besides, I was never a coward,  
and I don't want to shirk life and its  
duties. I want a governess for Elsie,  
and I want you to be a—sister to my  
little girl. You will do this for me,  
Bessie?"

"Yes, John."

After this we talked of many things,  
and I promised to visit Elsie on the fol-  
lowing day. When I did so I found  
John had become a rich man during the  
years of his absence. His house seemed  
a palace in my simple eyes. A widowed  
sister presided over it, and before a  
week I had found a governess for Elsie.

The return to the old scenes soon be-  
gan to have a good effect on John, and  
more than once Etta Munro said that  
"Mr. Rainforth was looking like himself  
again." It was true. John began to  
look as in the years gone by; the scars  
of grief were going away, his face was  
less worn and thin; he no longer stooped,  
and his leonine head showed the same  
proud grace that had so distinguished  
it, with the same luxuriance of blonde  
hair.

That his mind was in a healthier con-  
dition I knew, also; and though he  
never named his dead wife, he assented  
to my suggestion that Elsie should  
wear white during the summer, and  
when the weather grew cold he asked  
me to select her frocks and hats.

The winter was nearly over—it was  
the middle of March. I had just come  
in from school, and was hastening to go  
to Elsie, when Etta came in to say that  
"Mr. Rainforth was in the parlor, and  
so much disturbed, he wouldn't even sit  
down."

I was quite ready, and hastened to  
him.

"Come to us, Bessie," he said.  
"Come at once! Elsie is ill, and, I  
fear, seriously;" and we started even  
while he spoke. I did not ask what  
seemed to be trouble—I dared not—and  
my heart beat heavily.

I did not return to my little room for  
six weeks. Elsie's illness soon devel-  
oped a severe type of diphtheria, and  
my first care was to obtain a substitute  
for my school duties. That done, I took  
my place as nurse in Elsie's room.

An illness in which the life of a cher-  
ished child hangs in the balance day by  
day, and then hour by hour, is too aw-  
ful to dwell upon in memory, even after  
the evil is long past; and, though hap-  
pily past, I cannot without a shudder  
remember the suspense and anguish of  
that time.

It was hard to leave my darling  
against her protests and entreaties;  
but there came a day when I felt that  
I had no choice. John and I had  
nursed her together, and in those silent  
watches of the night when our two  
souls had seemed to hang over hers,  
the secret of our hearts had been laid  
bare. No word passed between us, but  
I saw that he knew how I loved him  
—how I had always loved him—and I  
choked with joy of knowing that now  
he loved me.

After that came a change, so grad-  
ual, so imperceptible, and I was so  
happy, that it was days, weeks, even,  
before I recognized it. The doctor had  
declared Elsie out of danger and she  
was rapidly convalescing; and then I  
saw that John avoided me. If our gaze  
met for an instant he turned away; if  
we were alone even for a minute he  
was silent, or spoke frivolously on some  
indifferent subject. The ordinary  
politeness of helping me with a cloak,  
or putting a shawl about me when I  
went with Elsie for a drive, he ostenta-  
tiously directed a servant to perform  
for me. I felt cut to the heart, and  
could not disguise it. With a thousand  
promises to come soon again, I kissed  
Elsie good-by, and went away from  
him.

If I could have had my own will then  
I would never again have entered John  
Rainforth's house; but how could I re-  
sist Elsie, whom I loved beyond all per-  
sonal feelings of pride or dignity? I  
avoided her father, however, and felt  
humiliated and wretched as I had  
never yet felt in my life.

What had I done? Was I quite mis-  
taken in supposing that John had  
grown to love me? In those bitter  
years when I had suffered in silence I



had almost possessed an unknown joy—the secret and the mysterious pleasure of a miser who gloats upon a treasure whose very existence is unsuspected by the outside world; and now I had betrayed that sacred treasure! The one gaze from which I should have shielded it had fallen on it, and—despised it! Oh, till now I had never truly known the meaning of suffering! John despised my love—resented it even; and I could but despise myself that in spite of all I yet loved him.

The summer had come, and Elsie, still a little delicate, and with that tendency to rapid growth that often comes after illness, looked wan and pale. I was anxious about her, but knew not what to do. I spoke to her aunt, and probably Mrs. Mason spoke to John, for the next evening he came to see me. We were both agitated when we stood face to face, but I was certainly the calmer of the two.

"When does school close, Bessie?" he asked.

There never was any beating about the bush with John. When he had anything to say or do he went at it at once.

Guessing already what he had come for, I answered, quietly:

"On the first of July."

"And this is the twenty-fifth of June—one week. Bessie, I have come to ask you to go to the mountains or seaside with Elsie—either or both, whatever the doctor advises. I have no right to ask you anything—I deserve less than nothing at your hands; but I ask for Elsie rather than for myself. You are the only woman I can trust her to, for you are a woman and an angel in one! she loves you—loves you as children love their mothers. Oh, that you were indeed her mother, that I might love you, too! For oh! my girl, if you but knew—God! what am I saying? Forgive me—forgive me!"

He had turned from me and had gone before I could find voice to say one word. I sank into a chair, faint and dizzy, trembling from head to foot, but deliriously happy. I had never heard the language of love, but surely this was it—passionate, despairing love and also respect and esteem. I couldn't understand; there must be some mystery, some mistake; but of one thing I was certain, John did not despise my love for him.

He had not waited for me to say that that I would go with Elsie; but there was no need, he knew that I would go. My instructions were to take her first to a quiet little spot beside the sea, and later on to the White Mountains. In a few days we were to start, and one night I had promised to stay with Elsie. It was just a child's whim, but as she seemed feverish I humored her, as usual; and when she had fallen asleep I was leaving the room on tip-toe. John's room was at the end of the hall, near the main stairway, and, as I hastened along, intending to go down to the dressing-room, his door opened and he came toward me. We met almost at the top of the stairs, and there we found ourselves face to face with a woman—a slender attenuated form, shadowy as a spirit and white as the newly dead. She stepped quickly between us, and John recoiled as if he had been shot. A chill passed over me—a breeze like the breath from polar seas seemed to strike us both. The woman's face seemed to look dead, all but her eyes—they glowed like coals, dark, brilliant, softly exploring—and they were the eyes of Elsie.

"You! How came you here?"

It was John's voice. I hope I shall never again hear it sound like that. With one stride he was beside her, and seized her wrist.

"No one is to blame," she gasped. "The door was open; I came in just to look at her once—you can't refuse me—I am dying."

The voice died away in a suffocating gurgle. She pressed her handkerchief quickly to her lips; in a moment it was dyed crimson, and a streak of bright red had flowed all down her white muslin dress.

I could not suppress a slight scream, but I darted forward and caught her as she swayed to and fro. We carried

her, John and I, into his room, and laid her on the bed; and when the doctor came he said that death had been instantaneous and without pain.

I felt a nightmare of horror. I asked no explanations; I did not question John even by a look. But when we were alone, very early in the morning, and, standing beside the casket in which she lay, he said:

"She was my wife, Bessie. When we lost her it was not death that took her from me—I could have borne that; but—"

"Don't, dear," I said, interrupting him; "tell me nothing."

Standing there and looking down on her white face, so wan and thin, so beautiful, I could not listen to her faults. John spoke again, however.

"I only wish to say, Bessie, that I forgive her now. The memory of her shall not come between us. When she left me I did not love her enough to forgive her—and now! Poor lost woman, I do not care for her enough to hate her. May God pardon her soul! for He alone can be both just and merciful."

I had brought all the blossoms of my passion vine, laden with dew and perfume, and now I had laid them on the breast and in the hands of my dead rival.—Waverly Magazine.

#### If the Baby Is Fat, Beware.

"Of course, fat babies are not necessarily healthy babies."

The depreciator of infant obesity above quoted is the visiting physician for two of the city's largest asylums for sick children, and was recently discussing the Lancet's objection quoted in the Sun to the award of medals in prize baby contests to the fattest babies as a matter of course.

"You might almost as well award the prize of healthy men contests to the fat," he went on. "We have fat babies in both my hospitals, and lots of 'em. As a matter of fact, whenever I see a fat man I say: 'Alcoholic,' and in the same way when I see a fat baby I say 'patent-baby-food-ic.' The havoc wrought by rum in adult life is hardly a bit greater than wrought among infants by the different lacteal atrocities forced upon their unprotected stomachs."

"I don't mean to say that fat babies are never healthy, of course. But fatness in babies is merely incidental. It's the color of the skin and strength of bone that's the real criterion. Fat is the easiest thing in the world to produce and the most uncertainly beneficial. I have a case right now of a baby whose misguided mother saw a patent milk advertisement in a street car a few months ago. The baby is now a year old, is as round as a butterball, and is dying of bowel trouble. If the weather were colder it would undoubtedly have pneumonia instead."

Here the doctor untied a "sample" package, revealed a tin can concerning the contents of which as an infant fattener the label was lurid with adjectives, and took a couple of tastes.

"Starchy, cane sugar, no real fat," he sputtered, in disgust. "A baby brought up on that would be all flabbiness, no bone, and a sufferer from rickets before the year was out. You can always tell a patent-fed prize winner by its greasy, over-fed pallor."

Another person in authority who objects to fatness as a criterion of healthy babyhood is the superintendent of the Nursery and Child's Hospital in Lexington avenue. No patent fatteners are fed to the patients under her guardianship. Modified milk for theirs. In her office are photographs of fat babies galore, each with its pathetic history. She keeps weigh charts of her patients. A normal baby, she says, should come into the world at seven pounds, should lose a few ounces the first week or so, and should go up to just twenty pounds within the year—the rate of increase being a little greater during the first six months than after.

New Boarder—What's the row upstairs? Landlady—It's that professor of hypnotism trying to get his wife's permission to go out this evening.

#### Care of Gilt Frames.

When gilded frames of paintings are dull in appearance, owing simply to ingrained dust, or have been tarnished by injurious vapors that have left the gold intact, they may be restored to brilliance by applying a weak solution of salts of tartar in water with a cotton-wool ball and then syringing the surface with cold water. If regilding is necessary, this also can be undertaken with very little trouble. After rubbing the surface of the frame with fine sandpaper, a coat of shellac varnish (shellac dissolved in alcohol) is to be applied with a brush, followed by a coat of japanner's gold size. When the size has become tacky—that is, receives but a slight impression from the finger—the gold leaf, previously cut in suitable sizes, is taken up and laid on with a cotton-wool ball, each piece being made to overlap slightly the adjoining pieces. The gilding is then pressed with cotton-wool. The surplus gold having been swept off with a silk handkerchief, a coat of shellac varnish is given. Two layers of gold leaf are better than one. For this the first layer is treated with gold size. The same process may be applied to the gilding of any wood surfaces. Thus some old-fashioned but light and elegantly shaped chair that may have lain neglected about a house may be completely metamorphosed and once again figure as an adornment to parlor or drawing room.

#### Throwing a Slipper.

The fashion of throwing a white satin slipper after the bridal pair as they depart for their new home, after the wedding ceremony is over, is supposed to have originated among the peasants of southern France.

There the bride is conducted to her new home by her friends, while her husband is made to halt a couple of hundred yards from the house. Supposing there is a rejected suitor, he now arms himself with an old sabot and flings it with his best aim at the bridegroom as he runs at full speed toward the house.

With the throwing of the shoe all bad feeling which may have hitherto been felt by the rejected swain for his successful rival is understood to be put away forever.

#### Origin of the Sandwich.

How many persons who daily eat sandwiches are aware that it is to an ancestor of the Earl of Sandwich that that peculiar form of food owes its name? The story runs that the Earl in question was very fond of playing cards, and, in order to prevent having to stop to eat, he used to have a slice of meat put between two slices of bread, and eat these as he played. This got to be called "sandwich," but gradually the inverted commas were dropped as the word became an accepted one in the language. The present Earl became colonel of the Grenadier Guards in 1881. He was once military secretary at Gibraltar, and has been attached to special embassies to various capitals of Europe.

He could write a comic article that would make you fairly roar, And his after-dinner speeches were with humor brimming o'er; But when left to mind the baby his resources were dispelled, And the funnier he tried to be the more the baby yelled.

"You don't mean to tell me he's a pugilist?"

"Not at all. I said he was a lightweight boxer."

"Well?"

"Well, he's a packer of strawberries."

"Did you say a chicken chews its food with its gizzard?" asked the little boy with the high forehead.

"Yes; that is practically the process."

"If that is the case," he queried, "how can a chicken tell whether it has the toothache or the stomachache?"

#### Domestic Hints.

**FRIED TOMATOES.**—Cut the tomatoes in medium thick slices and fry in butter and drippings, or, better still, in the best olive oil, until they are brown, but not until they fall to pieces when touched. Lift to a hot dish, a flat one, and dust with salt and pepper. Into the gravy in the spider pour half a cupful of cream, stir quickly and pour over the tomatoes.

**FRIED SOFT-SHELLED CRABS.**—Procure six live soft-shelled crabs, cleanse and wash them well, oil them slightly, and season with a pinch of salt and half a pinch of pepper. Put them on a broiler and broil for five minutes on each side. Have six pieces of toast ready, lay a crab on top of each, slightly glaze them with a little maitre d'hotel, and serve.

**GOOSEBERRY MARMALADE.**—Use three-fourths of a pound of sugar to a pound of the fruit. Put the sugar and fruit in layers in a preserving kettle. Heat very slowly, and crush the fruit a little as it heats to extract the juice. Simmer very gently until it is a thick mass. It must be stirred frequently, and cooked until the skins are perfectly tender. Seal in tumblers like jelly.

**TOMATO CUSTARD.**—Tomato custards may be made with canned tomatoes, but the fresh tomatoes are preferred. To each cupful of chopped raw tomatoes allow one egg. Simmer the tomatoes with an onion, a bay leaf and a sprig of parsley for fifteen minutes. Press through a sieve. Add water if there is not enough liquid to fill two cups. Beat the eggs separately, and stir all the ingredients together, adding salt and pepper. Pour into custard cups and bake in a pan containing hot water, just as other custards are treated. A shorter time is required than for milk custards. When they are firm turn out and pour over them green peas with white sauce.

**STRAWBERRY SYRUP.**—Boil a cup of fresh strawberry juice (obtained as in making jelly) with a cup of sugar to a thick syrup; cool, add a tablespoonful of lemon juice and pour into a sauceboat. Serve icy cold with each portion of cream. Red raspberries, cherries, peaches, grapes quinces, in fact, any kind of fruit, may be used for these delicious syrups, affording opportunity for unlimited variety. It is an excellent plan to make and bottle these syrups in season, using preferably bottles that are small enough to hold only sufficient for one serving. However, the juice of canned fruit may be used when fresh fruit is not obtainable, but allow only half a cup of sugar to a cup of juice.—Good Housekeeping.

#### Hints to Housekeepers.

To clean a glass decanter, put into it a few lumps of soda and a spoonful of vinegar. Shake well, but leave the top open, or the decanter may burst. Rinse with clear water and turn down to drain.

A little ammonia slightly diluted makes a capital cleanser for a greasy coat collar. Velvet coat collars may be treated in the same way, and the pile raised by holding close to a hot iron as soon as the cleansing operation is completed.

Now is the proper time to make strawberry fruit juice for winter use. Red raspberries, cherries, peaches and other fruit may be treated in a similar manner. Extract the juice of the fruit as in making jelly. Add a cup of sugar to each cup of juice, and boil together for a few moments. A little lemon juice is recommended, but may be omitted. Bottle in small jars, as it does not keep long after opening.

The cut lemon is recommended strongly to the summer girl for her toilet. Let her never be without it. Though rugged in feeling and heroic in its effect upon the skin, it is the best assistant a woman can have, and by its daily use small spots and blemishes are removed as fast as they appear. All stains should be taken off when fresh, if possible, as they grow deeper and deeper in color and harder and harder to get out if they are left on for any length of time.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, July 22, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	78 1/4 @ 76 1/2	78 @ 76 1/2
Thursday.....	76 1/4 @ 77 1/4	76 1/4 @ 77 1/4
Friday.....	76 1/4 @ 77 1/4	76 1/4 @ 77 1/4
Saturday.....	77 1/4 @ 76 1/2	77 @ 76 1/2
Monday.....	76 1/4 @ 75 1/2	76 1/4 @ 75 1/2
Tuesday.....	75 1/4 @ 76 1/2	75 1/4 @ 76 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	51 1/4 @ 50 1/2	50 1/4 @ 49 1/2
Thursday.....	50 1/4 @ 50 1/2	50 1/4 @ 49 1/2
Friday.....	49 1/4 @ 50 1/2	49 @ 49 1/2
Saturday.....	50 1/4 @ 49 1/2	49 1/4 @ 48 1/2
Monday.....	49 1/4 @ 48 1/2	48 1/4 @ 48
Tuesday.....	48 1/4 @ 49 1/2	48 1/4 @ 49 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 38 1/2 @ 1 39	— @ —
Friday.....	1 38 1/2 @ 1 39 1/2	— @ —
Saturday.....	1 38 1/2 @ 1 40 1/2	— @ —
Monday.....	1 38 1/2 @ 1 40 1/2	— @ —
Tuesday.....	1 40 1/2 @ 1 41	— @ —
Wednesday.....	1 41 @ 1 42 1/2	— @ —

### WHEAT.

The local wheat market has been in the main favorable to the selling interest since last review and gives promise of so continuing during the greater part of the current season. No great quantities of wheat have changed hands in this center, not for lack of demand, but because the wheat was not obtainable in very large amounts at prevailing values. Considerably more was purchased in the interior than here, and in many instances at relatively better prices than were quoted at this point. As the harvesting progresses it becomes more and more evident that the aggregate of California's wheat yield for 1903 will be decidedly light. Many producers are in no hurry to market their grain, believing they will have still more favorable opportunities to unload later on. The first wheat clearance from this port for the current season was made on Thursday last, the French bark Marie Molinos taking for Europe a part cargo of 568 tons, valued at \$15,100. The outward movement is expected to show increase in the near future, and certainly will if the wheat can be secured. There are fifteen ships now on the engaged list for grain loading, and most of these should be cleared within the next thirty days. They will not all take full wheat cargoes, however, and some of the vessels now under engagement will carry no wheat, as they are mainly chartered for either wheat or barley, or both, as shippers may decide upon.

California Milling, new.....	1 45 @ 1 50
Cal. No. 1 shipping, alongside.....	1 40 @ 1 42 1/2
Oregon Club.....	1 37 1/2 @ 1 42 1/2
Washington Blue Stem.....	— @ —
Washington Club.....	— @ —
Off quality wheat.....	— @ —

### PRICES OF FUTURES.

On Merchants Exchange prices of futures for No. 1 White wheat per cental for the week were as follows for the options named:

December, 1903, delivery, \$1.38 1/2 @ 1.44.
May, 1904, delivery, \$— @ —.
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.44 @ 1.42 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.... 6s 6 1/2 d @ s-d	6s 7 d @ 6s 7 1/2 d	
Freight rates..... 27 1/2 @ s	16 1/2 @ 17 1/2 s	
Local market..... \$1 13 1/4 @ 1 16 1/4	\$1 40 @ 1 42 1/4	

### FLOUR.

Current values are being well maintained for best qualities, but there is considerable flour on the market which is of rather low grade, and such stock is not moving readily, even where concessions are granted buyers. Spot supplies are not heavy, but are sufficient for immediate needs and are expected to show some increase soon, as many of the mills which had been shut down are now running. The present movement outward is not very heavy, either to Asiatic or South American countries.

Superfine, lower grades.....	\$2 40 @ 2 65
Superfine, good to choice.....	2 75 @ 3 00
Country grades, extras.....	3 75 @ 4 00
Choice and extra choice.....	4 00 @ 4 25
Fancy brands, jobbing.....	4 25 @ 4 50
Oregon, Bakers' extra.....	3 25 @ 3 75
Washington, Bakers' extra.....	3 25 @ 3 90

### BARLEY.

Market continues firm throughout, but more especially so for desirable export grades which are in active request. Ship-

pers are reported to be heavily short on this cereal, having sold in Europe last spring a number of cargoes, when the crop outlook was excellent, at much lower figures than were warranted by later developments. In filling these contracts at present prices, it is claimed shippers are losing heavily and are not yet out of the woods. Chevalier is beginning to arrive in quotable quantity, and the better grades are in good request at tolerably stiff prices. In both the spot and speculative markets for feed barley, prices averaged higher than preceding week.

Feed, No. 1 to choice new.....	\$1 02 1/2 @ 1 05
Feed, fair to good.....	1 00 @ 1 02 1/2
Brewing, No. 1 to choice new.....	1 07 1/2 @ 1 15
Chevalier, No. 1 to choice.....	1 30 @ 1 40
Chevalier, common to fair.....	1 05 @ 1 25

### OATS.

While there are moderate receipts of new oats, they are largely off quality, having more or less mixture of barley and other matter, making them unsuitable for the most particular trade. These oats are bringing fairly good figures, but are not in such active request as choice to select, market for latter sort being decidedly strong at values quoted.

White Oats, fancy feed.....	1 25 @ 1 27 1/2
White, good to choice.....	1 20 @ 1 25
White, poor to fair.....	1 12 1/2 @ 1 17 1/2
Gray, common to choice.....	— @ —
Milling.....	1 22 1/2 @ 1 25
Surprise, good to choice.....	— @ —
Black Russian.....	1 10 @ 1 15
Red, fair to choice.....	1 12 1/2 @ 1 25

### CORN.

Spot stocks are of very small proportions, and that they will show any great increase soon is altogether improbable. Business is necessarily restricted. There is little or nothing at present upon which to base quotations aside from prices realized in a retail way.

Large White, good to choice.....	1 45 @ 1 50
Large Yellow.....	1 45 @ 1 50
Small Yellow.....	1 70 @ 1 80
Eastern, in bulk.....	— @ —

### RYE.

There are no heavy offerings and not much doing, the bids of wholesale operators being in the main lower than producers are willing to accept, and under current quotations. Values for the time being are not well defined.

Good to choice, new.....	1 10 @ 1 15
--------------------------	-------------

### BUCKWHEAT.

No offerings of consequence in this cereal at present. Quotable values are without change, but in the absence of transactions are largely nominal.

Good to choice.....	1 65 @ 1 80
---------------------	-------------

### BEANS.

There is some inquiry for shipment, but at generally easier figures than have been lately current. Stocks in Eastern centers are reported to be quite light, but dealers are slow to stock up at the comparatively high prices which have been ruling, anticipating an easier market as soon as the new season opens. Stocks remaining in this center are principally Limas, Black-eyes, Large Whites, Bayos and Pinks. The last two varieties are not in heavy supply, and the first two kinds are held mainly at Southern coast points of production.

Pea, fair to good, 100 lbs.....	3 25 @ 3 50
Small White, good to choice.....	3 15 @ 3 25
Large White.....	2 85 @ 3 00
Pinks.....	2 90 @ 3 00
Bayos, good to choice.....	3 65 @ 3 80
Reds.....	2 90 @ 3 00
Red Kidney.....	— @ —
Limas, good to choice.....	3 45 @ 3 50
Black-eye Beans.....	2 65 @ 3 00
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Not much doing in this line locally, neither buyers nor sellers showing any special inclination to crowd business. Stocks here are of rather small proportions and are principally of the Green variety.

Green Peas, California.....	1 60 @ 1 75
Niles Peas.....	2 25 @ —

### HOPS.

There continues to be a wide difference in the views of sellers and buyers as regards values. Some recent sales have been reported in the interior at prices in keeping with values lately quoted here, but showing a marked decline from the figures which most growers have been asking. The coming crop in this State promises to be light, the weather most of the summer having been unfavorable for the proper development of the vines and blossoms. Latest advices, however, are more encouraging than they were early in the month. Taking the world at large, the prospects are the yield will be a fair average. Late private advices from New York report as follows: "Country advices have come a little lower this week. The best of the New York State hops now left in growers' hands can be bought at 19c; there are probably not more than 2000 of these unsold, but they are moving very slowly. The prospect of nearly twice as many hops as were grown in New

York State last year makes farmers a little anxious to dispose of remaining stocks. The yards in Washington and Oregon are reported looking exceedingly fine. The giving way on the part of growers has affected the position here somewhat and our market is about 1c lower and a little unsettled. There is not much pressure to sell because stocks are very moderate and well controlled but trade is very quiet. Brewers are very indifferent buyers but are watching the crop prospects with much interest. Cable reports from Germany indicate a very bright prospect for the crop. Vermin has appeared in Bohemia, which threatens some damage. Some of the English yards have improved under heavy washing, but there is still more or less vermin and some apprehension that damage may result."

California, good to choice, 1902 crop.....	17 1/2 @ 20
--	-------------

### WOOL.

Small quantities of lambs' fleeces are arriving, mainly from San Joaquin section, and the best of these are being sought after at full current rates. The regular Fall clip is not expected to put in an appearance in quotable quantity much before the middle of August. The market shows a generally healthy tone, especially for good to choice wools, with stocks throughout the country light.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Lambs, Northern.....	13 @ 14
Lambs, Southern and San Joaquin.....	9 @ 12 1/2

### HAY AND STRAW.

Although receipts of hay have been of quite liberal proportions, the market has inclined more in favor of sellers than for several weeks preceding, the demand being fairly active. Wheat hay sold at a narrower range, inside figures being marked up. Alfalfa commanded better average prices, and at the improved figures was not being offered in heavy quantity.

Wheat, good to choice.....	10 50 @ 13 00
Wheat and Oat.....	10 00 @ 12 50
Tame Oat, good to choice.....	9 50 @ 11 50
Wild Oat, fair to good.....	8 50 @ 10 50
Barley.....	8 00 @ 10 50
Clover.....	9 00 @ 10 00
Alfalfa.....	9 00 @ 10 50
Stock Hay.....	7 50 @ 9 00
Compressed.....	10 50 @ 13 00
Straw, 3/4 bale.....	40 @ 60

### MILLSTUFFS.

Market for Bran and Middlings has not changed materially since last review, but the tendency of prices is unmistakably downward. On offerings for near future delivery the figures now current cannot be obtained. Rolled Barley is being firmly held. Milled Corn products of all sorts are in very light stock.

Bran, 1/2 ton.....	24 00 @ 25 00
Middlings.....	26 10 @ 28 00
Shorts, Oregon.....	24 50 @ 25 50
Barley, Rolled.....	22 00 @ 23 00
Cornmeal.....	30 00 @ 31 00
Cracked Corn.....	31 00 @ 32 00

### SEEDS.

There is no activity to report in seeds of any description. Where transfers are effected they are at much the same range of values as last quoted. One lot of 468 sacks of Mustard arrived, and some is being offered for forward delivery. Stocks of other seeds quoted herewith are light.

	Per cwt.
Alfalfa, Utah.....	— @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 00 @ 2 25
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25
	Per lb.
Canary.....	5 @ 5 1/4
Rape.....	1 1/2 @ 2 1/4
Hemp.....	3 1/2 @ 4

### HONEY.

This season's crop is not only unusually late, but is proving much lighter than was generally expected. While the market is unfavorable to buyers, the demand at extreme current rates is not brisk and is mainly on local account.

Extracted, White Liquid.....	5 1/4 @ 5 1/2
Extracted, Light Amber.....	4 1/2 @ 5
Extracted, Amber.....	4 1/4 @ 4 1/2
Extracted, Dark Amber.....	3 1/2 @ 4 1/4
White Comb, 1-lb frames.....	11 1/4 @ 13 1/4
Amber Comb.....	8 @ 10
Dark Comb.....	— @ —

### BEESWAX.

Little on the market at present and no probability of a surfeit of offerings this season.

Good to choice, light 3/4 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Choice Beef has ruled steady, with demand only moderate, but increased inquiry is looked for soon. Second and third grade Beef was lower. Veal was in light receipt and most desirable readily commanded full figures. Mutton was in ample supply, but previously quoted values were fairly well maintained. Lamb in prime to choice condition met with a moderately firm market, stocks of same not

being heavy. Hogs did not arrive very freely, especially choice medium and large. For medium sizes the market was quite firm.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 3/4 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6
Beef, 3rd quality.....	5 @ 5 1/2
Mutton—ewes, 8 @ 8 1/2; wethers.....	4 @ 5
Hogs, hard grain, 150 to 250 lbs.....	6 1/4 @ 6 1/2
Hogs, large hard, over 250 lbs.....	6 @ 6 1/4
Hogs, small, fat.....	6 @ 6 1/4
Veal, small, 3/4 lb.....	9 @ 10
Lamb, Spring, 3/4 lb.....	10 @ —

### HIDES, PELTS AND TALLOW.

Quotable values and the general condition of this market remain practically the same as last noted. Offerings are meeting with tolerably prompt custom at the prices ruling.

Nothing but select bides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	— @ 10½ —	@ 9
Medium Steers, 48 to 56 lbs.....	— @ 9½ —	@ 8
Light Steers, under 48 lbs.....	— @ 8½ —	@ 7½
Heavy Cow Hides, over 50 lbs.....	— @ 8½ —	@ 7½
Light Cow Hides, under 50 lbs.....	— @ 8½ —	@ 7¼
Stags.....	@ 7	@ 6
Wet Salted Kip.....	— @ 8½ —	@ 7½
Wet Salted Veal.....	@ 10	@ 9
Wet Salted Calf.....	— @ 10½ —	@ 9½
Dry Hides.....	@ 17	@ 16
Dry Kip and Veal, 11 to 16 lbs.....	@ 14	@ 12½
Dry Calf, under 4 lbs.....	@ 19	@ 17
Pelts, long wool, ¾ skin.....	1 00	@ 1 50
Pelts, medium, ¾ skin.....	70	@ 90
Pelts, short wool, ¾ skin.....	40	@ 65
Pelts, shearing, ¾ skin.....	15	@ 30
Horse Hides, salted, large prime, each.....	3 75	
Horse Hides, salted, medium.....	2 50	
Horse Hides, salted, small.....	2 00	
Horse Hides, dry, large.....	1 75	
Horse Hides, dry, medium.....	1 50	
Horse Hides, dry, small.....	1 25	
Tallow, good quality.....	6½ @	6½
Tallow, poorer grades.....	4½ @	5¼

### BAGS AND BAGGING.

Low prices continue to prevail in the Grain Bag market, with demand slow and prospects of a large carry-over stock. Fruit Sacks are ruling steady and are changing hands in considerable quantities. In Wool Bags the movement is light at unchanged values.

Fruit Sacks, cotton.....	6 1/4 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	1 1/2 @ 1 5
Grain Bags, Calcutta, buyer June-July.....	— @ —
Grain Bags, San Quentin, in lots of 2,000, 3/4 100.....	5 55 @ —
Wool Sacks, 4-lb.....	35 @ —
Wool Sacks, 3 1/2-lb.....	32 @ —

### POULTRY.

Market for the general run of offerings has been devoid of firmness. There were rather heavy arrivals of Eastern, which sold mainly at comparatively low figures and interfered seriously with the advantageous disposal of California stock. Chickens constituted the bulk of offerings and there was little inquiry for any other fowl. Pigeon market was slow and weak, particularly for old.

Hens, California, 3/4 dozen.....	4 00 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	6 00 @ 8 00
Fryers.....	3 50 @ 4 50
Broilers, large.....	3 00 @ 3 50
Broilers, small to medium.....	2 00 @ 2 50
Ducks, old, 3/4 dozen.....	3 00 @ 3 50
Ducks, young, 3/4 dozen.....	3 50 @ 4 50
Geese, 3/4 pair.....	1 25 @ 1 50
Goslings, 3/4 pair.....	1 25 @ 1 50
Pigeons, old, 3/4 dozen.....	1 50 @ —
Pigeons, young.....	1 50 @ 1 75

### BUTTER.

Strictly choice to select fresh was not in heavy supply. The advance last quoted was fairly well maintained on favorite marks going to special custom, but with this exception the market lacked firmness. Dealers have already commenced to draw on cold storage supplies, in addition to which considerable quantities of Eastern butter, creamery, process and ladle, are being landed on the market. Prices East are now 1 @ 2c lower than they were early in the season.

Creamery, extras, 3/4 lb.....	26 @ —
Creamery, firsts.....	25 @ —
Dairy, select.....	25 @ —
Dairy, firsts.....	24 @ —
Dairy, seconds.....	22 @ 23
Firkin, good to choice.....	— @ —
Mixed Store.....	17 1/2 @ 19
Pickled Roll.....	— @ —

### CHEESE.

While the market for domestic continues unfavorable to buyers, under light offerings, the inquiry at current figures is only for immediate needs. That values will be maintained for any great length of time at present levels is not probable. Some cheese from the Middle West and from the adjacent Territories is being landed here at lower figures than the home product is commanding. Small cheese are in lightest stock.

California, fancy flat, new.....	13 @ —
California, good to choice.....	12 @ 12 1/2
California, "Young Americas".....	13 @ 14

### EGGS.

Most select qualities of fresh, uniformly



large, white and in every way desirable, sold as a rule at tolerably firm figures, in some instances slightly above quotations, but for fresh other than most select the market could not be termed firm. Ordinary fresh have to come into competition with cold storage and Eastern eggs, which are being offered freely, and at prices which are causing them to be given the preference by many large consumers.

California, select, large, white and fresh. 25 @26  
California, select, irregular color & size. 22 1/2 @24  
California, good to choice store. 18 @21

## VEGETABLES.

Changes in quotations were not numerous or very marked, but were, in the main, in favor of the producing interest. Choice Corn was in good request at full figures. Tomatoes were in light receipt and were favored with a tolerably firm market. Bell Peppers were in improved demand and brought better figures than had been ruling. Cucumbers and Summer Squash were more plentiful and cheaper. Onions were in more than ample supply for the immediate demand and values were barely steady.

Asparagus, box. 1 00 @ 2 00  
Beans, Lima, box. 7 @ 8  
Beans, String, box. 2 1/2 @ 4  
Cabbage, choice garden, 100 lbs. 75 @ 1 00  
Corn, Green, crate. 1 25 @ 1 75  
Corn, Green, sack. 1 00 @ 1 75  
Cucumbers, large box. 50 @ 75  
Egg Plant, box. 1 00 @ 1 50  
Garlic, box. 2 @ 3  
Mushrooms, box. 1 @ 2  
Onions, new Yellow Danver, ctn. 60 @ 75  
Onions, new Red, sack. 35 @ 50  
Okra, Green, box. 75 @ 1 00  
Peas, Sweet Garden, box. 3 @ 4  
Peas, good to choice, sack. 1 25 @ 1 75  
Peppers, Green Chile, box. 65 @ 1 00  
Peppers, Bell, box. 1 25 @ 1 50  
Rhubarb, box. 1 @ 2  
Summer Squash, large box. 50 @ 75  
Tomatoes, crate. 50 @ 75

## POTATOES.

There was a wide range of prices for potatoes, both in sacks and boxes, with market firm for choice to select and weak for the common grades. Demand was largely local, but accumulations were not heavy and were mostly of the cheaper qualities. Old potatoes for seed are nearly out of stock and are no longer quotable.

California Burbanks. 75 @ 1 20  
River Reds, ctn. 1 @ 1 20  
Garnet Chile. 1 00 @ 1 15  
Early Rose. 70 @ 1 10  
Potatoes in boxes, per cental. 1 15 @ 1 50

## The Fruit Market.

## FRESH FRUITS.

The market for most of the fresh fruits now in season showed fairly healthy condition, especially for desirable shipping stock. There was a moderate outward movement, principally coastwise to Northern points. Apples in good to choice condition are beginning to arrive more freely, including some 4-tier Gravensteins, these receiving the preference and commanding up to \$1.25 in a regular way. Pears were in increased supply and averaged lower than last quoted. Apricots sold at a wider range, owing to a great difference in quality. Some are arriving too ripe for either shippers or canners. For large and sound yellow, free from blemish, the market continues decidedly firm. Peaches of high grade were in good request, bringing much the same figures as were current the preceding week. Present offerings include a liberal proportion of Yellow Crawfords and St. Johns. Plums and Prunes were in rather free receipt, with the demand not particularly brisk, and the general drift of prices was in favor of consumers. Nectarines were mostly too green to be sought after; only choice ripe could be depended on to bring outside quotation. Figs were in less excessive supply than preceding week, but market was not noteworthy for firmness. Grapes made a fairly liberal display for this date and prices were steady. The tendency on nearly all varieties of Berries in season was to more firmness, especially on Raspberries and Loganberries, in consequence of decreased arrivals. Watermelons, Cantaloupes and Nutmeg Melons were in liberal receipt, and with weather cool and foggy most of the week, they sold rather slowly and at reduced figures.

Apples, fancy, 4-tier box. 1 25 @ 1 50  
Apples, good to choice, 50-box. 75 @ 1 00  
Apples, common to fair, 50-box. 40 @ 65  
Apricots, crate. 2 50 @ 4 00  
Blackberries, chest. 1 25 @ 2 00  
Cantaloupes, crate. 60 @ 75  
Figs, Black, 2-layer, box. 35 @ 50  
Figs, Black, 1-layer, box. 30 @ 40  
Figs, White, box. 30 @ 40  
Gooseberries, common, box. 1 @ 2  
Gooseberries, English, box. 1 @ 2  
Grapes, Black, crate. 75 @ 1 25  
Grapes, Seedless Sultan, crate. 50 @ 90  
Loganberries, chest. 2 50 @ 4 00  
Nectarines, box. 50 @ 1 00  
Nutmeg Melons, crate. 1 00 @ 1 50  
Peaches, box. 40 @ 65  
Pears, Bartlett, box. 65 @ 1 15  
Pears, other varieties, box. 40 @ 75  
Plums, good to choice, box. 30 @ 50  
Prunes, Tragedy, box. 40 @ 50  
Raspberries, chest. 5 00 @ 7 00  
Strawberries, Longworth, chest. 5 00 @ 7 00  
Strawberries, Melinda, chest. 2 50 @ 4 00  
Watermelons, 100. 5 00 @ 15 00  
Whortleberries, box. 10 @ 12 1/2

## DRIED FRUITS.

While there is not much activity to report in the market for cured and evaporated fruits, it is not as much owing to lack of inquiry as to stiff views of sellers that trade for the time being is of rather light volume. Business doing in Apricots is mainly within range of 7@8c for good to select Royals in sacks, f. o. b. at primary points, market being strong at this range, many growers holding for better figures. A few new Apples have been received, but nothing of consequence has been yet done in them, owing to difference in views between sellers and buyers. Choice new evaporated in boxes are not at present offering under 5c for immediate delivery. Peaches and Pears of new crop are beginning to arrive by sample, but quotable values for them have not yet been established. Some dealers are reported shorting the market on Peaches at 4 1/2 @ 5c for September delivery, but whether wash transactions or actual business remains to be determined later on. New prunes continue to be offered on the 2 1/2 @ 3c basis for the four sizes in sacks, October delivery, and some bear manipulators are pretending to be shading these rates 1/2c. In old dried fruit there is not much doing in any description, and no large quantities of any sort offering, values throughout for last year's product being now largely nominal.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice. 4 1/2 @ 4 3/4  
Apples, extra choice to fancy, 50-lb box. 5 @ 5 1/2  
Apricots, Moorpark. 1 @ 1 1/2  
Apricots, Royal, good to choice, box. 7 @ 8  
Apricots, Royal, fancy. 8 1/2 @ 9  
Figs, 10-lb. box, 1-lb cartons. 65 @ 75  
Nectarines, box. 3 1/2 @ 4  
Peaches, unpeeled, fair to good. 3 1/2 @ 4 1/2  
Peaches, unpeeled, choice. 4 1/2 @ 4 3/4  
Peaches, unpeeled, fancy. 5 @ 6  
Peaches, unpeeled, extra fancy. 7 @ 7 1/2  
Pears, halves, fancy. 8 @ 9  
Pears, halves, choice. 5 1/2 @ 6  
Pears, halves, fair to good. 4 1/2 @ 5  
Plums, Black, pitted. 4 1/2 @ 5  
Plums, Red and Yellow. 5 @ 5 1/2  
Prunes, Silver, good to fancy. 4 @ 4 1/2  
Prunes, in bags, 4 sizes, 2 1/2 @ 2 1/2; 40-50s, 5 1/2 @ 5 1/2; 50-60s, 4 1/2 @ 4 1/2; 60-70s, 3 @ 3 1/2; 70-80s, 2 1/2 @ 2 1/2; 80-90s, 2 @ 2 1/2; 90-100s, 1 1/2 @ 1 1/2; small, 1 1/4 @ 1 1/2 c.

## COMMON SUN-DRIED.

Apples, sliced. 3 1/2 @ 3 3/4  
Apples, quartered. 3 1/2 @ 3 3/4  
Figs, White, in bulk. 5 @ 5 1/2  
Figs, Black, in sacks, 1 lb. 4 1/2 @ 5  
Plums, unpitted, box. 1 1/2 @ 2

## RAISINS.

Market is quiet, which is not unusual for this time of year. Offerings are not of heavy volume, and it is the exception where they are being crowded to sale. Quotable values are unchanged.

Prices at common shipping points, crop of 1902: 2-crown London Layers, 20-lb boxes, \$1.10 @ box; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Dehesas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, box, 4-crown, 5 1/2 c; 3-crown, 5 1/2 c; 2-crown, 5c.

## CITRUS FRUITS.

Orange market is almost featureless, the season being practically ended. The demand is extremely light and is mainly for Late Valencias, which in a limited way are selling fairly well. Quotable values for Lemons are without radical change, but market has not been particularly firm, owing to rather slow inquiry, in consequence of cool and foggy weather most of the week. Lime market was quiet and favored buyers.

Oranges, Washington Navel, box. 1 50 @ 3 00  
Oranges, Valencias, box. 1 00 @ 1 50  
Oranges, Seedlings. 1 00 @ 1 25  
Lemons, California, select, box. 2 50 @ 2 75  
Lemons, California, good to choice. 2 00 @ 2 25  
Lemons, California, fair to good. 1 00 @ 2 00  
Grape Fruit, box. 75 @ 1 75  
Limes, Mexican, box. 4 50 @ 5 00

## NUTS.

Almond market shows an easy tone, owing to favorable crop reports, but spot stocks are not heavy. Walnuts are practically out of market. Good prices are expected for this year's product. Peanut market is quiet, with values steady.

California Almonds, shelled. 16 @ 20  
California Almonds, paper shell. 11 @ 12  
California Almonds, soft shell. 8 @ 10  
California Almonds, hard shell. 5 @ 5 1/2  
Peanuts, California, fair to prime. 4 1/2 @ 5 1/2  
Peanuts, Eastern, hand-picked. 5 1/2 @ 6 1/2  
Walnuts, White, soft shell. 1 @ 1 1/2  
Walnuts, White, standard. 1 @ 1 1/2

## WINE.

The market is slow and lacking in firmness, and where selling pressure is exerted lower figures have to be accepted than have been lately nominally current. The quotable range on dry wines of last year's vintage may be said to be 15@17c per gallon, with transfers difficult to effect in a wholesale way at any material advance on inside figure. Stocks in interior are reported to be tolerably heavy for this time of year. Receipts of wine at San Francisco last week were 380,370 gallons. The ship Henry B. Hyde, clearing for New York on 16th inst., carried 8534 barrels. The steamer Colon, sailing on 18th inst., carried 65,226 gallons and 105 cases, 64,600 gallons of the shipment being for New York.

## Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks. ....	94,989	207,241
Wheat, ctns. ....	51,433	65,188
Barley, ctns. ....	98,610	135,942
Oats, ctns. ....	14,142	21,990
Corn, ctns. ....	1,282	2,852
Rye, ctns. ....	1,525	1,790
Beans, sks. ....	1,400	2,375
Potatoes, sks. ....	31,599	51,313
Onions, sks. ....	5,107	8,790
Hay, tons. ....	4,297	10,053
Wool, bales. ....	1,044	1,764
Hops, bales. ....	100	100

## EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks. ....	59,392	103,048
Wheat, ctns. ....	11,714	12,384
Barley, ctns. ....	48,290	56,196
Oats, ctns. ....	618	1,086
Corn, ctns. ....	63	750
Beans, sks. ....	706	1,206
Hay, bales. ....	1,649	4,070
Wool, lbs. ....	132,002	1,695
Hops, lbs. ....	3,209	5,581
Honey, cases. ....	3	18
Potatoes, pkgs. ....	1,301	4,915

## California Fruit Shipments.

NEW YORK, July 21.—The first shipment of California fruit for the London market will go out to-morrow by the steamship St. Paul. The shipment includes 7016 boxes of pears, 2024 boxes of plums, 10,000 boxes of peaches and 640 boxes of prunes. This fruit should arrive in London next Thursday, just two weeks after leaving California.

**Horse Owners! Use**  
GOMBAULT'S  
**Caustic Balsam**  
A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges extra. With full directions for its use. Send for descriptive circular. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

**PATENTS**  
OBTAINED  
IN ALL  
CIVILIZED COUNTRIES.  
EXPENSE SAVED INVENTORS BY  
PRELIMINARY SEARCHES.  
COMMUNICATIONS CONFIDENTIAL.

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports since 1793, with full copies of U. S. Patents since 1872. As a result we are able to give reliable advice as to the patentability of an article, frequently saving the inventor the cost of an application. Our Washington branch tends exclusively to our business before the Patent Office. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, including filing of Caveats, Trade-Marks, Copyrights, Labels; prepare Assignments, Licenses and Agreements; give Opinions on Patentability and Infringements, etc. Circulars free on application.

**DEWEY, STRONG & CO.,**  
(ESTABLISHED 1860.)

**PATENT AGENTS,**  
330 Market Street, San Francisco, Cal.  
and 918 F Street, Washington, D. C.

**CHEAP RATES** California, Washington, Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)  
**TRANS-CONTINENTAL FREIGHT CO.,**  
26 Montgomery St., San Francisco.  
325 Dearborn St., Chicago.  
338 So. Broadway, Los Angeles.

**The Measure**  
of  
Success in  
Wheat Growing  
is a complete fertilizer  
containing 6% actual  
**Potash**  
A deficiency of Potash  
in fertilizers will result  
in small grains.  
Our books on Wheat and  
Grain Culture are free to farmers.  
**GERMAN KALI WORKS,**  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

**MALTHOID ROOFING**  
Never corrodes, never  
sweats nor expands; in fact  
never gives any trouble of  
any kind and is used for all  
classes of work. A very  
superior covering for barns,  
factories, depots, canneries,  
tanneries, sheds and mining  
property.  
Send for booklet. 6  
**The Paraffine Paint Co.**  
San Francisco, Seattle,  
Portland, Los Angeles  
and Denver, Colorado.

**W. A. PLUMMER,**  
Importer and Manufacturer of  
**GRAIN BAGS,**  
Twines,  
TENTS, AWNINGS AND WAGON COVERS.  
111 CLAY STREET,  
San Francisco, Cal

**THE RAISIN INDUSTRY.**  
A Practical Treatise on Raisin Grapes  
Their History, Culture and Curing.  
By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry  
in California. It has been approved by Prof. Hilgard,  
Prof. Wickson, Mr. Chas. A. Wetmore and a  
multitude of Practical Raisin Growers.  
Sold only by THE DEWEY PUBLISHING CO., or its  
agents at the uniform price of \$3.00, postage pre-  
paid. Orders should be addressed to:

**PACIFIC RURAL PRESS,**  
330 Market Street, San Francisco, Cal.

**NOTICE.**  
The Annual Meeting of the Stockholders of the  
GRANGERS' BUSINESS ASSOCIATION, a corporation,  
for the election of a Board of Directors, and  
for the transaction of such other business as  
may properly come before it, will be held at No.  
309 California Street, San Francisco, at 10 o'clock  
A. M., Tuesday, the 11th day of August, 1903.  
A. D. LOGAN, Vice-President.  
CHARLES WOOD, Secretary.



## THE IRRIGATOR.

### California Men Will Build Uncle Sam's First Great Irrigation System.

San Francisco contractors, having filed at Washington the lowest of the sealed bids, will probably in a few days, says the San Francisco Chronicle, be awarded the Government contract for the construction of a great irrigating system in west central Nevada. A canal 32 miles long and 50 feet wide is to be made from the Truckee river, about 30 miles east of Reno, eastward 14 miles parallel with the Central Pacific to Wadsworth, and thence southeastward 18 miles into the Carson sink, which is an immense, level, waterless desert, about 60 miles in diameter.

**THE PLAN.**—Three hundred thousand acres of agricultural land will be created by this ditch. The Government will open the whole district to settlers, each of whom may take up 80, or at most 160 acres, under homestead claims, and without charge. The Government will supply all the water that is needed for irrigation, charging \$2 a year for each acre supplied from the big canal. So vast is the area that it will accommodate between 30,000 and 50,000 settlers on small farms.

The Truckee river, at the point where the canal is to tap, is at this time of year a pure stream 200 feet wide and about 3 feet deep. From it will branch the canal as a large artificial creek, 21 feet wide at the bottom, 53 feet wide at the top, 14 feet deep and carrying 13 feet of water, or a volume of 1400 cubic feet a second.

**THE WORK.**—For convenience in figuring costs, the Government divided the work into three divisions, the first a stretch of 6½ miles from the river, through fairly easy country; the second a stretch of about 7 miles, requiring one tunnel of 400 feet, one of 900 feet and one 1400 feet in length; and the third, the stretch of 18 miles down into the level, far-reaching desert, with its distant fringe of foothills and with the Humboldt mountains walling it on the north and the Carson sink mountains fencing it on the east.

On the whole work the new firm of C. A. Warren & Co. of San Francisco bid \$995,747. The next nearest bids were: Atlantic, Gulf & Pacific Co., San Francisco, \$1,098,059, and E. B. & A. L. Stone, Oakland, \$1,161,944. Mahoney Bros. of Omaha bid \$309,369 on the first division, but Warren & Co. beat that with a bid of \$306,000. The local firm was lowest bidder not only for the whole job, but for each of the three divisions.

Warren & Co. is a concern organized especially to undertake this Government work. It consists of the San Francisco Construction Co., combined with C. A. Warren. If Warren & Co. be awarded the contract, it is the intention of the firm to start actual construction work within three days, and to push it steadily to completion within fourteen months.

They will use between 1000 and 1500 work horses, two or three steam shovels, several sand machines for excavating in the desert and between 1000 and 2000 men. The men will be paid about \$2.25 a day of ten hours, and will be supplied board at 25 cents a meal, with fresh meat at every meal, abundance of vegetables and dried fruit, on the principle that men fed well will do the best work.

The company will establish camps along the line of the proposed canal, set up eating houses and do its own butchering of cattle bought for the men. Large supply stores will be established at Wadsworth and other points adjacent to the work.

**PART OF MAMMOTH PLAN.**—This big irrigating canal for Nevada is but the beginning of the Government's plan for the reclamation of the deserts of the Sagebrush State. Two others are to be started next year. One will extend from Pyramid lake about 18 miles. Pyramid lake is an extensive body of fresh water about 50 miles northwest of Wadsworth, and into it flows the Truckee river, without any outlet. The

other proposed canal has not been definitely located yet.

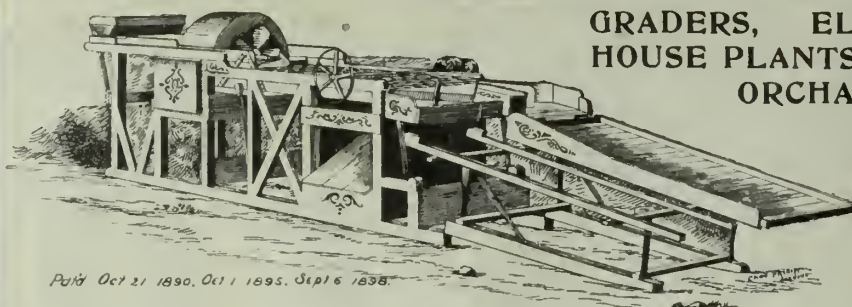
The great canal now about to be started will require the damming of the Truckee river and the divergence of its course for a while during the construction of the extensive flood gates, and at intervals along its course there will be large branches into the neighboring country.

### California World's Fair Commission Offers Premiums.

As a means of obtaining the best material for exhibition at St. Louis, and as an inducement to growers, the Commissioners have decided to offer an award of \$10 to the party who sends in the biggest or best sample of any California product; and they offer an award of \$5 to the party who sends in the second best. Size and quality will be taken into consideration in determining results. They want, for instance, the biggest squashes and pumpkins grown in California; they want the biggest and best potatoes; the biggest and best yams, onions, carrots, beets, cauliflower, celery, rhubarb, cabbage, watermelons, radishes, chicory, artichokes, corn, broom corn, hemp, flax, hops, etc. They also want the best pea vines and bean vines, showing biggest and most pods on the vine. They want the biggest and finest apples; the best and biggest pears; the biggest and finest ears of sweet corn and Indian corn; and the longest stocks of corn with the most ears on them; and all other things of California production. They also want the biggest and best fruits of all varieties. Anyone, therefore, who has superior articles of any of these products, or of anything else grown in California, is requested to send same to the Commissioners, freight or expressage being paid by the latter, addressed to 29 Market street, San Francisco. A card should accompany each article, giving the name and address of the grower, the name and variety of the article, and stating also that it is intended for competition for the award offered by the Commission.

The more good articles sent from any locality the more prominent will it appear in the list of awards. The Commissioners also want specimens of minerals of all kinds and character, and where the article is of special value, by reason of its richness or its rarity, they will give a receipt for the same, or will buy it outright, provided the price asked is no more than it can be subsequently sold for.

Telephone Main 199.  
**Blake, Moffitt & Towne,**  
**DEALERS IN PAPER,**  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.



Pat. Oct 21 1890, Oct 1 1895, Sept 6 1898.

GRADERS, ELEVATORS, WAREHOUSE PLANTS, PROCESSORS, ORCHARD AND WAREHOUSE TRUCKS, EVAPORATOR SUPPLIES, DRY-GROUND CARS AND TRUCKS, PRUNE DIPPERS.

## Send Postal Card for Our New Catalogue.

This catalogue describes over 85 different machines that we make which are used in the fruit handling business.

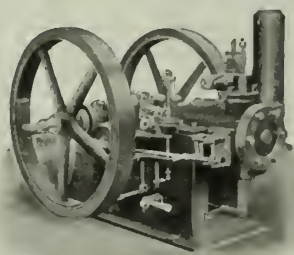
We make a specialty of planning, building and equipping complete drying plants and warehouses.

If figuring on anything whatsoever in this line let us hear from you.

**ANDERSON-BARNGROVER MFG. CO.,**

128 WEST SANTA CLARA ST., SAN JOSE, CAL.

## Hercules Gasoline Engines



**FOR**

PUMPING WATER, CUTTING ENSILAGE, SHELLING CORN, SAWING WOOD, CLEANING GRAIN, RUNNING SEPARATOR, Etc.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

**Baker & Hamilton,**

SACRAMENTO, SAN FRANCISCO, LOS ANGELES

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
**GARDEN AND FIELD.**

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## FRUIT MARKETING.

## Prune Market in Hungary for 1903.

Report of FRANK DYERCHESSTER, U. S. Consul at Budapest, Hungary, furnished for publication in the PACIFIC RURAL PRESS by the State Horticultural Commissioners.

The 1902 crop of prunes in Servia was about 3500 "wagons" (say 28,000 to 30,000 tons). It is estimated that more than five-sixths of this crop was disposed of by New Year's day.

Owing to the action of the Budapest Chamber of Commerce and Industry, the Hungarian State Railway obtained, beginning December 1, 1901, concessions from the Prussian and Saxon State railways, granting "re-expedition" of prunes from Budapest warehouses at the special "through" rates otherwise in force from Servia, Bulgaria and European Turkey. Special rates were also obtained to Passau, Simbach and Salsburg, Austrian and Bavarian stations, respectively, as well as to points in Germany, via Galicia, in eastern Austria.

Budapest and foreign export firms also made an agreement on May 1, 1901, in force for three years, that except for prunes, sold "ab Breska" (Bosnia), both Servian and Bosnian prunes should be shipped only after the five days inspection limit of the Servian and Bosnian prune-examining commissioners, in order to assure the buyer of obtaining a good quality. As to weight, it was decided that buyers taking over their goods by attorney should establish the weight themselves, otherwise the forwarding agent's invoice weights should decide. It was also agreed that in the case of prunes shipped "in transit" through Hungary, a shortage of 1/2% or over at Budapest, at other stations 1% could be claimed by the purchaser.

In 1900 Budapest, as was reported by this office, ceased to be the prune emporium. Owing to the favorable freight rates and in spite of the near Servian restrictions on export of prunes from that kingdom, the Budapest Chamber of Commerce intends to support Hungarian firms in restoring their old prestige. Prices for Servian prunes are made "ab Save" (Servia), and for Bosnian "ab Breska." Last year the small-stone prunes were much called for, and the Bordeaux Austro-Hungarian Consul reported home last October that Californian prunes proved unsatisfactory in quality in 1901, and would arrive in 1902 late in November, or early in December, i. e., late for the French market. He also pointed out that England buys particularly "Anthony" prunes. Later on, the Hungarian commercial attaché in Paris reported that the California prunes did not arrive until the end of November, and that "Fancy Santa Clara" prunes proved of good quality and found a market in France, which country imports even in years of good crops. He also said that Bosnian prunes were usually bought through Budapest firms, but emphasized the fact that only the best qualities would find a market in France. Answers to questions for June of the Pacific Commercial Museum have been given me as follows:

1. The outlook in Bosnia, as well as in Servia, for the 1903 crop, is unfavorable, inasmuch as the frosts and snowfalls at the time of blossoming destroyed a large part of the prune crop and a part of the young fruit has already fallen from the attacks of vermin.

2. If no further damage from the elements takes place Bosnia may have the half and Servia the third part of last year's crop.

3. The remains of last year's Bosnian and Servian prunes are limited to small quantities no longer necessary to consider.

4. The present prices of new prunes are nominally as follows: 110-120, 95-100 and 80-85 like quantity of each kind mixed; Servian at crowns 15½, Bosnian at crowns 16½ per 50 kilograms (say \$6.20 and \$6.60 per 100 pounds), goods delivered at station on the Save river.

The cost of transportation of prunes from Bosnia and Servia to Fiume, in

case of shipments amounting to 10,000 kilos (one wagon or carload) is about 3 crowns per 100 kilos (say 60 cents per 220 pounds).

From the fact that the export of Bosnian and Servian prunes to America, long since diminished to almost nothing, freights to New York are not quoted, and to-day the question is, What do new California prunes cost at Fiume or Trieste? Hungarian produce dealers will be pleased to receive quotations from American exporters.

## HUNGARY'S PRUNE TRADE IN 1901.

IMPORT.		
	Pounds.	Per 110 Pounds.
Bosnia .....	7,380,339	\$6.09
Servia .....	1,918,403	6.29
Austria .....	294,076	5.68
Roumania .....	4,629	5.68
United States .....	1,763	5.68
Italy .....	1,763	5.68
Germany .....	661	5.68
France .....	441	5.68

Total .....

EXPORT.		
	Pounds.	Per 110 Pounds.
Germany .....	4,169,544	\$6.60
Austria .....	2,351,418	6.60
Sweden .....	350,005	6.60
Italy .....	338,075	6.60
Great Britain .....	202,865	6.60
Holland .....	89,806	6.60
Belgium .....	73,408	6.60
Russia .....	44,092	6.60
Roumania .....	22,266	6.60
Switzerland .....	13,668	6.60
France .....	5,732	6.60
Bulgaria .....	882	6.60
Egypt .....	661	6.60

Total .....

Budapest, Hungary, June 12.

## Fruit and Alfalfa.

Modesto and Turlock irrigation districts, located in Stanislaus county, in central California, have completed their extensive systems. This puts 180,000 acres under irrigation, and anything that can be grown in California can be grown there. Anyone desiring information about that locality can get the same by applying to A. B. Shoemaker, Modesto, Cal.

## Removal Notice

## The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

OUR SPECIALTY IS  
CUTTER'S  
BLACK LEG VACCINE.

Write for BLACK LEG booklet.  
If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## SAFE INVESTMENT.

Bonds Secured by Real Estate, Certified by Trust Company; pays 5 per cent interest, payable every 6 months.

Address for information,  
I. J. TRUMAN, Call Building, San Francisco.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

DEWEY, STRONG & CO.,  
Patent Agents, S. F., and Washington, D. C.

**SPAVINS,** Ring Bone, Splints, Curbs and all other forms of Lameness are quickly and permanently cured by using KENDALL'S SPAVIN CURE. \$1 a bottle; 6 for \$5. All druggists. Unequaled for family use. Book "A Treatise on the Horse" sent free. Address DR. B. J. KENDALL CO., Enosburg Falls, Vt.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.

Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

## Largest Nursery

West of the Rocky Mountains

## CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

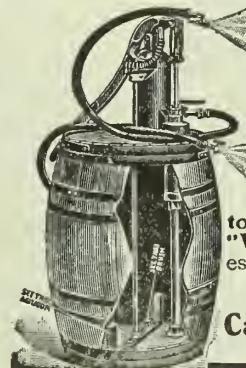
Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

## RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**  
GEO. C. ROEDING, PRESIDENT AND MANAGER  
P. O. BOX 10  
FRESNO, CAL.



## "EMPIRE KING" SPRAY PUMP.

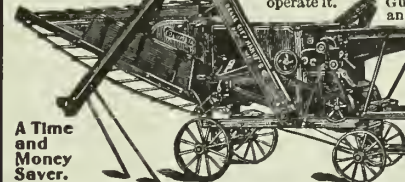
the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by FIELD FORCE PUMP CO., Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

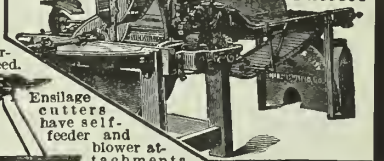
## BELLE CITY Thresher

A small and compact thresher of great capacity. Strongly built. Can be run by light power. Requires but a few men to operate it. Guaranteed.



A Time and Money Saver.

## Feed and Ensilage Cutter.



Ensilage cutters have self-feeder and blower attachments. Write for book about ensilage, illustrated catalogue and price list—free. BELLE CITY MFG. CO., Box 114, Racine, Wis.

## [ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,

713 Market Street, San Francisco.

## GREENBANK

BEST PRUNE DIP. POWDERED 98% CAUSTIC SODA. PURE POTASH.

**75%** That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. **THIS MACHINE AND ALL**

**OHIO**

FEED AND ENSILAGE CUTTERS are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts. HOOKER & CO. 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## THE TROTTER HORSE OF AMERICA.

How to Train and Drive Him, with Reminiscences of the Trotting Turf.



By Hiram Woodruff. The author was one of the most noted horsemen of this country, and in the work before us has given to the public the best thoughts, founded on years of experience in the feeding, handling, breaking and training of colts with a view to securing their best performances. Besides treating of driving horses, it gives a condensed history of the best horses in this country. 12mo. Size, 5 1/2 x 7 1/2 inches. Cloth, extra, \$1, postpaid. Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.



## Patrons of Husbandry.

### Oakland Grange.

To THE EDITOR:—Oakland Grange celebrated its thirtieth anniversary Saturday, July 18th, with the following programme: A short history of the Grange, by Secretary Mrs. N. G. Babcock; an account of the first State Grange held in Oakland, by Mrs. A. T. Dewey; a recitation by Miss Birdie Sherry; an account of early days with Eden Grange, by Mrs. J. Horton; an original poem, by Miss Anita Dewey; a closing address, by Past State Master J. V. Webster.

Interesting remarks were also made by Past Executive Committeeman Jno. Deming and Past State Pomona Mrs. Jas. MacLise, Mrs. Chas. Emery, Miss Caroline Hancock and P. R. McCabe, after which dainty refreshments were served. NITA.

Oakland.

### Sonoma Pomona Grange.

Pomona Grange, which embraces all of the Granges in the county, met in quarterly session in Santa Rosa last week. The Republican says the event was more than an ordinary meeting, as it was the occasion of the annual election of officers. The session continued all day, the morning hours being occupied with the receiving of reports from the various subordinate Granges and routine business. The attendance was not very large, but most of the Granges were represented. Master W. H. Skinner of Progressive Grange of Healdsburg presided and Mrs. Johnson of Petaluma, Secretary, was at her desk. Among those in attendance other than the members of the home Grange were Mr. and Mrs. G. N. Whitaker and Mr. and Mrs. Hansen of Bennett Valley; Mr. and Mrs. Winans and Miss Kelson of Petaluma; Mr. and Mrs. King and Mr. and Mrs. Gaston of Two Rock.

At noon was served the feast of Pomona—truly a delightful harvest banquet. In the afternoon the following were elected: W. H. Skinner, Master; Peter Hansen, Overseer; George Conners, Lecturer; John Strong, Steward; Theodore King, Assistant Steward; Mrs. Gregory, Chaplain; Miss Fannie Gamble, Pomona; Mrs. Mac, Ceres; Mrs. King, Flora; Mrs. Gaston, Lady Assistant Steward; Harvey Gregory, Trustee; Mrs. Winans, Organist.

### Declaration of the Profitability of California Fruit Growing.

The State Board of Trade has affirmed that fruit growing in California is profitable. It appears that there are "knockers" abroad, who are trying to make it appear that California fruit growing is not what it has been represented to be. Consequently the State Board of Trade took up the matter, discussed it in the light of reliable statistics gathered from all available sources and adopted the following statement officially:

The profitability of the fruit industry of California having been challenged and broadly impeached by certain public statements, the State Board of Trade, having had these statements under consideration, declares as follows:

The impeachment of the profitability of fruit growing is referable wholly to the fluctuation of profit as relates solely to the shipment of green deciduous fruit. The shipment of green deciduous fruit to be profitable demands a system of packing, shipment, refrigeration, time schedule and distribution which has not yet been devised. From the centers of fruit growing in California to the principal markets of the East the average distance is 2500 miles. The problem of the successful transportation of green deciduous fruit requires in its solution proper initial handling of the fruit, due consideration as to the state of ripeness in which the fruit leaves the point of origination, proper refrigeration en route and careful attention to the con-

dition of the markets in which the fruit is offered. The green deciduous fruit shipments are sold by agencies over which the grower has no control. These considerations present elements of extra hazard wherein the result could not be otherwise than disappointing in a very large number of instances.

But the profitability of the fruit industry of California rests upon a more secure foundation. Citrus fruits are not perishable, and over 80% of the deciduous fruits are cured and canned in an imperishable form. The vicissitudes attending this form of industry are not greater than those met with on the field of other industrial activity. Profitable industries cannot be judged by fluctuations of profit from year to year. All industry is attended by varying conditions, influencing the profitability.

It is, therefore, the deliberate conclusion of this Board that the fruit growing industry of the State of California is highly profitable, and that this profitability is assured and permanent.

This Board also entertains the well founded opinion that the shipment of green deciduous fruit will become more profitable as the form of enterprise is better understood and the proceedings relating to it are better adjusted to the necessities of the situation.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING JULY 7, 1903.

- 732,915.—TRANSMITTER GUARD—S. J. Ballard, Los Angeles, Cal.
- 732,818.—MOTOR—W. Ballerstedt, Los Angeles, Cal.
- 732,916.—WOOD CUTTING MACHINE—A. A. Bartlett, Eureka, Cal.
- 732,825.—TRUCK—E. J. Bryan, Riverside Cal
- 733,001.—SHOE FASTENING—G. Bryant, S. F.
- 733,138.—PIPE WRENCH—F. D. Bullard, Los Angeles, Cal.
- 733,007.—LOG HAULING ATTACHMENT—S. H. Chase, San Jose, Cal.
- 733,009.—WINDMILL—J. Coates, Hemet, Cal.
- 732,831.—DISTILLING APPARATUS—J. M. Coffman, Montalvo, Cal.
- 732,736.—CHAIR—A. Gruenwald, Salem, Or.
- 733,193.—SPEED MECHANISM—R. B. Hain, Los Angeles, Cal.
- 733,198.—PNEUMATIC TIRE—R. A. Harris, Tucson, Ariz.
- 733,323.—SCREEN—E. Hipolito, Los Angeles, Cal.
- 733,041.—DOOR HANGER—G. W. Holly, Palo Alto, Cal.
- 733,308.—GATE LATCH—J. J. Hynding, Ferndale, Cal.
- 732,863.—BLACKBOARD—F. D. Jones, Los Angeles, Cal.
- 733,324.—MATTRESS STUFFER—A. R. Kezer, Los Angeles, Cal.
- 733,238.—ELEVATOR—D. R. Macpherson, S. F.
- 733,239.—TACKLE BLOCK—T. E. Maddux, Goldbar, Wash.
- 733,060.—WALNUT HULLER—G. F. Malers, Goleta, Cal.
- 733,065.—PIPE JOINT—J. C. Martin, Jr., S. F.
- 733,074.—STAMP AFFIXER—W. E. Newton, Oakland, Cal.
- 733,261.—KEYBOARD—G. L. Noe, Wileland, Nev.
- 733,082.—ABRADING COMPOUND—K. Sakurai, S. F.
- 733,292.—CAMERA—W. R. Smith, Napa, Cal.
- 733,301.—AMALGAMATOR—J. W. Swearington, Gaston, Cal.
- 733,097.—ELECTROMAGNET—I. G. Waterman, Santa Barbara, Cal.
- 733,205.—ELECTROMAGNET—I. G. Waterman, Santa Barbara, Cal.

## TANKS!

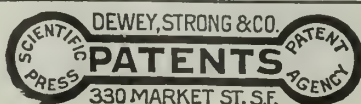
TWENTY 1000-GALLON WINE TANKS, double head, in first-class condition, for sale at \$10.00 apiece f. o. b. schooner or S. P. cars. Tanks being sold on account of dying out of vines.

PUTNAM BROS.,  
Warm Springs, Alameda Co., Cal.

### HORSE - BREEDING RECOLLECTIONS.



Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.



By Count Lehendorff, the manager of the Government stud of Germany, who has made a special study of the intricacies of horse breeding, and in the volume before us, embodies the result of years of careful study. While all may not agree with his conclusions, none will dispute the value of his observations. Size, 5 1/2 x 8 1/4 inches. Bound in full cloth. \$1. postpaid.

## HERBICIDE

KILLS

### WEEDS AND POISON OAK.

Keeps Gutters and Roadways Clean.

Don't be skeptical, but write for facts and particulars to the Pacific Coast Agents,

ECCLES & SMITH, 91 FREMONT STREET, SAN FRANCISCO, CAL.

## ELECTRIC Worm Eradicator

KILLS

### SLUGS, BUGS AND GRUBS

OF ALL KINDS

On All Varieties of Plants and Trees.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

## ALFALFA

KING OF DAIRY FOODS. One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasturage for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE

KEARNEY PARK, FRESNO, CALIFORNIA

## GLENN RANCH,

Glenn County, :::: California.

## FOR SALE

In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## LAND!

Near Stanford University and Palo Alto, Santa Clara County, California.

\$11,500. Good general farm, 83 acres, 2 1/4 miles out. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

\$7000. A beautiful tidy place. House 8 rooms, large barn, etc., young orchard 10 acres, 3 miles from University; must be seen to be appreciated.

\$7750. Profitable hill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and helpers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

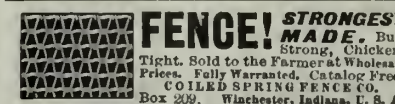
I have listed many other larger and smaller orchards, also town lots in Mountain View and Palo Alto, also good orchard land ranging from \$100 to \$200 per acre. Write for what you require. JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.



PAGE

### Quality and Price

correspond in Page Fence: both a little higher  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



BUY alfalfa land graded ready to plant; water right deeded with land guaranteed sufficient for irrigation purposes; near town creameries and R. R.; will sell for a limited time at \$15 per acre; half cash, balance on time if desired. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

CORN HARVESTERS. It cuts and throws it in pile. One man and one horse cuts equal to a corn binder. Price \$12. Circulars free. NEW PROCESS MFG. CO., Lincoln, Kansas.





# Well made MILK CANS well filled.

NOT AT THE WELL, BUT FROM THE SILO.

Let Us Tell You How This Can BEST be Done.

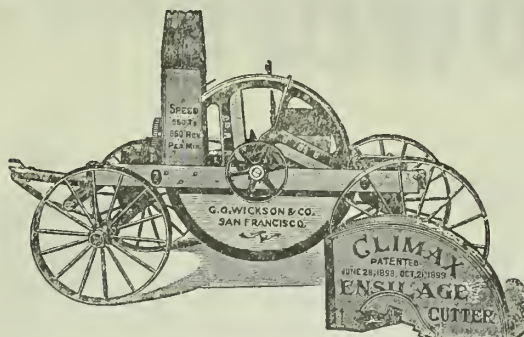
## OUR CANS

### Have Advantages

in construction which you will appreciate when explained.

G. G. Wickson & Co.

34-36 Main St., San Francisco.  
123 No. Main St., Los Angeles



## Breeders' Directory.

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1896. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-old, 21 Jerseys and Durhams competing. F. H. Burke, 80 Montgomery St., S. F.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS**. Service bulls of noted strain. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETERSAXE & SON**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**THOROUGHbred POLAND-CHINA** FOR SALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**SANTA TERESA POULTRY FARM**, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**BRONZE TURKEYS**. Ed. Hart, Clements, Cal.

### SHEEP.

**R. H. CRANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY**, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS**, Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2002, San Francisco. M'n'f'g of Pacific Incubator and Brooder. Send for Catalogue.



Thoroughbred Scotch Collies

**TOKAYANO KENNELS**  
Colfax, Placer Co., Calif.

CHAS. D. PIERCE, Pres.

W. FRANK PIERCE, Vice-Pres.



DE KOL OF VALLEY MEAD.  
7 day A. R. O. record  
19 lbs. 9 oz. butter.

## RIVERSIDE HERD HOLSTEINS.



ROMEO AAGGIE ACME.  
7 day A. R. O. record  
26 lbs. 11 oz. butter.

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered. Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.
Romeo Aaggie Acme.....	431	7 yr.	26.11 oz.	Corona Clifton.....	410	6 yr.	16.3 oz.
Fidessa.....	570	4 "	25 "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d.....	499	7 "	23.15 "	Mountain Juliet.....	382	7 "	15.14 "
Netherland Maud Moore.....	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	398	4 "	15.6 "
Minnewawa Louise.....	510	4 "	22.9 "	Lady Kurts Alpa.....	378	6 "	15.2 "
Nicola De Kol.....	484	3 "	21.10 "	Pauline Sadie De Kol.....	367	3 "	15.2 "
De Natsey Baker.....	401	7 "	20.9 "	Eva Blanco.....	355	2 "	14.5 "
Ruda 2d Belle.....	401	7 "	20.9 "	Corona Acturas.....	344	2 "	14.1 "
De Kol Konigen Van Freisland.....	440	8 "	20.9 "	Kornd, ke Pietertje Queen.....	300	2 "	13.14 "
Minnewawa Lily.....	364	4 "	20.4 "	Aral a De Kol.....	332	2 "	13.7 "
Drosky Artis.....	460	6 "	20.4 "	Oleander De Kol.....	324	2 "	13.1 "
Griselda of Brookfield.....	512	6 "	20.3 "	Rijaneta Clothilde 2d.....	312	2 "	13.2 "
De Kol of Valley Mead.....	435	4 "	19.9 "	Segriss Pietertje De Kol 2d.....	355	2 "	12.11 "
Wynetta Princess.....	391	2 "	18.7 "	Western Princess.....	294	3 "	12.11 "
Drusa.....	399	5 "	18.4 "	Painted Lady.....	327	3 "	12.10 "
Wakalona.....	393	5 "	18.3 "	Mary Ann De Kol.....	391	3 "	12.10 "
Olympia Clay.....	526	6 "	18.2 "	Miranda Acturas.....	325	3 "	12.3 "
Victor Idlewild 2nd.....	371	4 "	17.9 "	Rhoda De Kol Colantha.....	353	2 "	12.6 "
Cascade Princess.....	479	8 "	17.2 "	Hengerveld Lass.....	306	2 "	12.2 "
Western Duchess.....	387	7 "	16.6 "	Princess Louise De Kol.....	299	2 "	12 "
Aaggie Martin.....	416	6 "	16.12 "				
Roma Princess.....	366	3 "	16.8 "	Wild West De Kol.....	279	2 "	10.10 "

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

## PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103  
STOCKTON, CAL. 'Phone, SUBURBAN 281.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES. Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Feeding Perfected," which describes our new Poultry Crumming Machine and method of use; also trough feeding, and our special brand of **Grenadier Meal**; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. **THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.**

## HOLSTEIN CATTLE.

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders. Large Number of Officially Tested Cows. Bull Calves from Great Producing Dame. Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.

### FOR SALE.

### Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORO, Hanford, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All Inoculated for Texas Fever, at CHOWCHILLA STOCK FARM. Address.... ISAAC BIRD, Merced, Cal.

### DEWEY, STRONG & CO.,

San Francisco, Cal., and Washington, D. C.

### NO HUMBUG. Three in One.

Swine V. Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 45 different ear marks. Extracts Horns. Price \$1.50. Send \$1 for trial. If results, send balance. Paid May 6, 1902. Hog and Calf Holder only 75c. **FARMER BRIGHTON, FAIRFIELD, IOWA.**

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, cloth. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.

### PACIFIC RURAL PRESS.

330 Market St., San Francisco, Cal.

## WEATHER VANES



WAGON AND PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## JUNIOR MONARCH HAY PRESSES.



Standard and 3/4 Bale Sizes.

Manufactured and for Sale by

L. C. MOREHOUSE.

WM. H. GRAY, Agent, San Leandro, Cal.

## HEALD'S

BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School

West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

## Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done; a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH. Price, \$2 Postpaid.

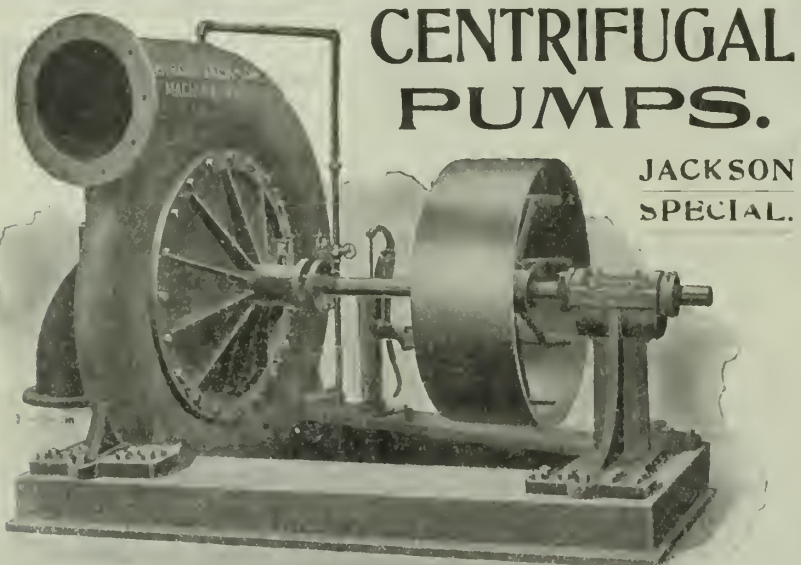
### PACIFIC RURAL PRESS,

330 MARKET ST., SAN FRANCISCO.



## Get Circulars and Prices.

Sacramento, San Francisco, Los Angeles, Cal.

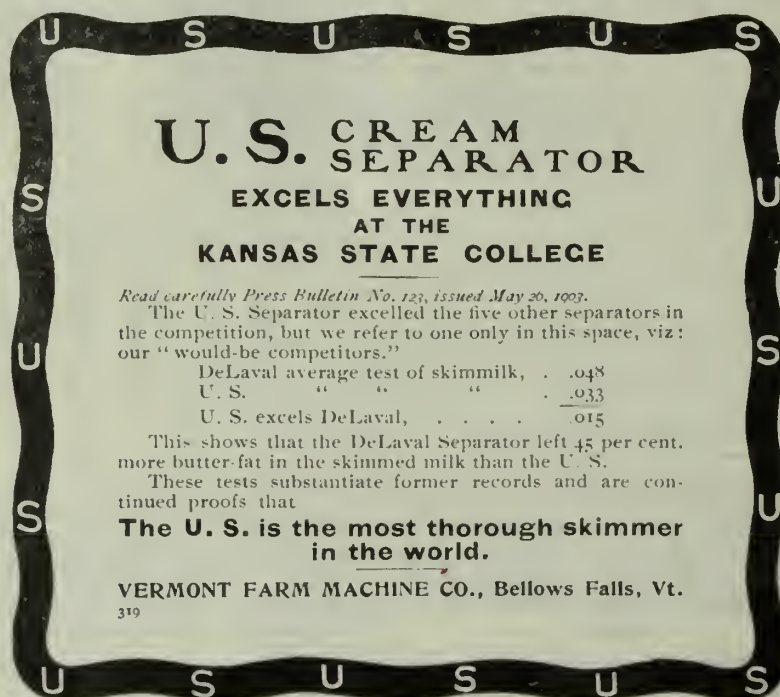


BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO.  
Write for Catalogue E.

## A large industrial machine, likely a steam engine or pump, with a large flywheel and various mechanical components. The machine is mounted on a heavy base and features a large, ornate flywheel on the right side. The central part of the machine has a complex arrangement of pipes, valves, and smaller mechanical parts. The overall design is typical of late 19th or early 20th-century industrial machinery.

519 MARKET ST., SAN FRANCISCO.

**113 New Montgomery St., SAN FRANCISCO.**



AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.  
Send for Folder.

183-185-187 Fremont St  
SAN FRANCISCO.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.



# the LIBRARY THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

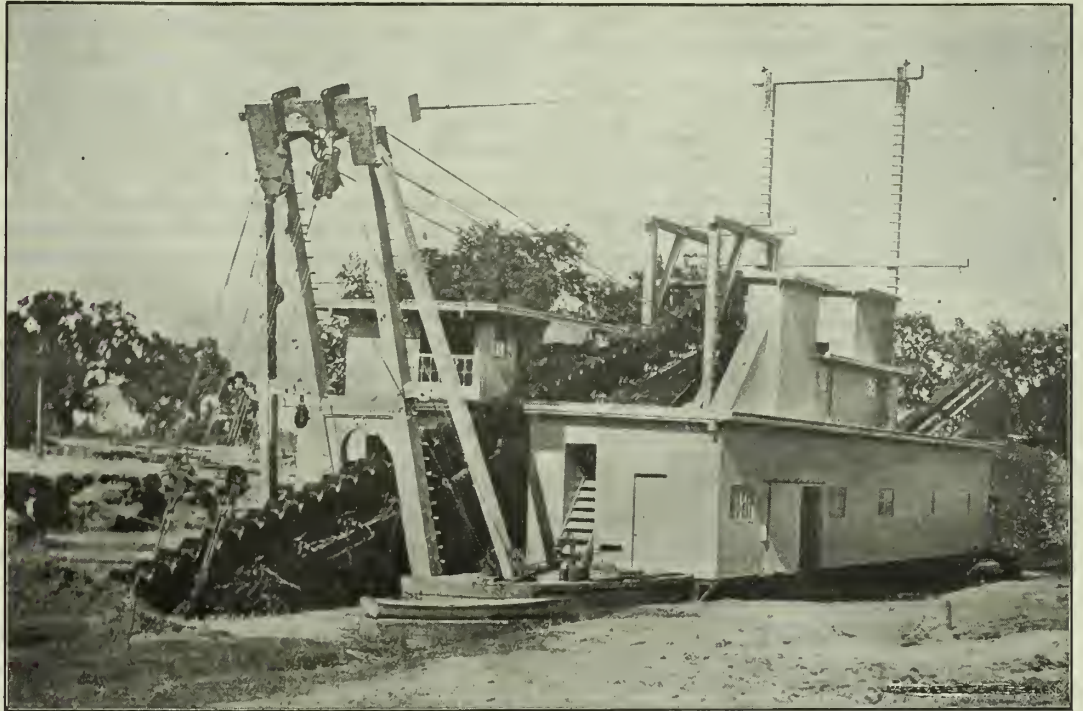
Vol. LXVI. No. 5.

SAN FRANCISCO, SATURDAY, AUGUST 1, 1903.

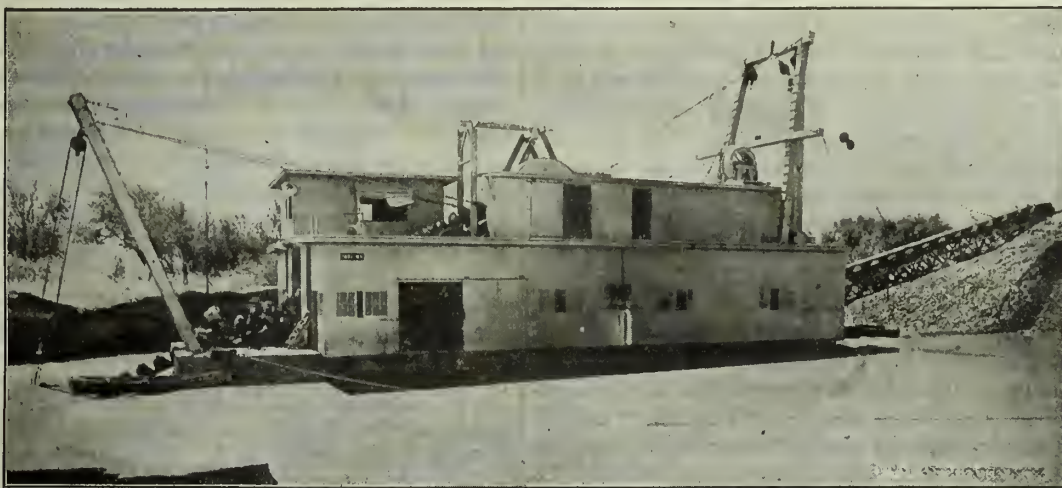
THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Gold from Orchard Lands.

Deep cultivation is the surety of profit from orchard lands in California and deeper cultivation is in some cases the surety of more profit. How deep then shall the cultivation be? That is a question which must be answered according to conditions. The deepest cultivation we know of is now being practiced along the riverside lands below Oroville. It amounts to turning the land upside down from bedrock to surface. The trees are out of sight as a matter of course, but the orchardist does not care for that, because he has in his pocket the money which he calculates the trees would have netted him in a number of years and the farming value of the land besides. This is a case also in which the orchardist does not have to stand the cost of cultivation because the cultivator pays him well for the privilege of turning his land over. The cultivator on his part gets his pay out of the land which he leases and makes money beside. It is altogether a very unique affair and is being more widely seen at points along the tributaries of the Sacramento river. It is not feasible everywhere, because the prime condition is that the orchard or vineyard shall have been planted on riverside lands resting upon a stratum of gold-bearing gravel. It does not add to our horticultural resources, as they are called, but it often adds delightfully to the resources of the horticul-



Dredger Taking Off Top Soil for Gold Contents Thereof, Near Oroville.



Dredger Digging Deep in Orchard Land Near Oroville.

turist because he is able to sell the orchard to the gold seeker for more money than the trees would ever produce, and if the statistician, compiling statistics as to the actual sales of bearing orchards, reaching some very high figures in spots along the rivers, is not wary he may boom the value of orchard lands immensely.

Not to speak longer in parables, let it be said that the river gravel miners in some places are pursuing their operations in the manner suggested and some men, who were once prominent as fruit growers, are now hardly less prominent as miners along dredging lines. The way in which they are now working lands which formerly they scratched on the surface may be inferred from the capacious engines which are shown upon this page. The larger picture shows a dredger working off the surface soil—cutting its way inland from the river, carrying the soil over its back, so to speak, dropping it into its interior regions where it is washed for its gold—the fine dirt goes off in the water after leaving its gold, while the coarse stuff is taken up by another endless chain of buckets and dumped far in the rear, as the picture shows.

But the work goes much lower and everything is passed through to a depth of 30 feet perhaps. The smaller picture shows a dredger occupied in deep

work, while on the bank beyond stand the orchard trees which will ere long be displaced and destroyed in the progress of the work.

Of the extent of these operations in a single district, it may be stated that on the gravelly bottom land below Oroville, upon a strip of land 9 miles long by 2 miles in width, bordering on and adjacent to the Feather river, twenty-one dredgers are at present working. These dredgers are the property of about twelve companies, who own dredging land varying from 80 to 800 acres. Some indication of the profit in the work is found in statements giving the value of the gravel between 17 cents and 19 cents per cubic yard, an average depth of 11 yards. As a dredger handles from 1200 to 2000 cubic yards per day, at a cost of from 5 cents to 8 cents—average 6 cents—per cubic yard, it is evident that the returns in this work are considerable.

But the miners near Oroville are getting rather low grade bullion for a very interesting reason. This region has been a great small game country, and during the last fifty years doubtless thousands of pounds of shot have been scattered over the gravels which the dredger is now recovering. Nor does it require such reckless shooting on the part of these old hunters to reduce the bullion grade as would at first appear. An expert has calculated that to re-

duce the value of the bullion from \$19 to \$17 per ounce for each acre, fifty ordinary shotguns, twelve gauge, would furnish enough shot. The baseness of the bullion, however, does not truthfully represent the amount of shot, as on most of the dredgers the lead is separated by panning, and carefully picked, before the bullion is melted. On one dredger they collected about fifty pounds of shot from about two acres of gravel. Occasionally a pistol ball is found, recalling the golden, glorious old days of California history, when quick shooting was a civic virtue.

### Wheat After Sugar Beets.

The picture adjacent, which shows the White Australian wheat field of Mr. R. O. Baldwin near Danville, Contra Costa county, may be taken as evidence that wheat sometimes does well following sugar beets. The yield was twenty-six sacks per acre of wheat which ran 145 pounds per sack, and the grain stood 6 feet high, as shown by the figure of the man. This does not, of course, dispute the fact that the



White Australian Wheat Near Danville.

sugar beet takes much plant food from the soil, but it does show that the soil is strong and that the amount and depth of cultivation necessary for two crops of beets helped to maintain moisture and otherwise bring the land into fine shape for wheat.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON. Horticultural Editor

San Francisco, August 1, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Dredger Taking Off Top Soil for Gold Contents Thereof, Near Oroville; Dredger Digging Deep in Orchard Land Near Oroville; White Australian Wheat Near Danville, 65.  
EDITORIAL.—Gold From Orchard Lands; Wheat After Sugar Beets, 65. The Week, 66.  
QUERIES AND REPLIES.—Care of Ginseng Seedlings; Suckers for Buds or Scions; California Storax; Vinehoppers, 66. Prunus Simoni; Salt Bush or Alfalfa; Unthrifty Orange Trees; Who Knows the Alpine Fig! To Irrigate or Not to Irrigate, 67.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending July 27, 1903; Temperature and Rainfall, 67.  
THE ORNITHOLOGIST.—Save the Song Birds, 68.  
THE STOCK YARD.—California for Shorthorn Breeding, 68.  
THE IRRIGATOR.—Character and Value of Irrigated Fruits, 68.  
HORTICULTURE.—A Distinguished Delegation From Texas; Petit Grain, or Essence of Orange Leaves, 69.  
FORESTRY.—Australian Trees, 69.  
THE RANGE.—The Use of Branding Fluid, 69.  
FRUIT PRESERVATION.—Preserving Fruit Specimens for the World's Fair, 70.  
FLORIST AND GARDENER.—An Oregon Man Pelted with Rose Leaves, 70.  
AGRICULTURAL REVIEW.—71.  
THE HOME CIRCLE.—Turn About; Tarts, 72. The Care of the Eyes; Hints to Housekeepers; Domestic Hints, 73.  
THE MARKETS.—Produce Market; Fruit Markets, 74.  
THE VETERINARIAN.—Sunstroke of Horses, 76.  
MISCELLANEOUS.—Squirrel Killing, 77. Governmental Horse Insurance in Bavaria; Big Returns from Fruit Land; Celery Planting; New Patents, 78. Kafir Corn in San Bernardino; A New Berry; Profit in Muscatel Grapes, 79.

## The Week.

Moderation has prevailed in weather doings and the rush in midsummer fruits is thus lessened and the work made easier and more efficient. On the whole, things are going very well and prices are compensating for lessened weights in grains and hay. Those who have both good weights and high prices have rounder faces than we have seen for many a day. If things proceed along this summer's lines for a while we shall crown a new line of California wheat and barley kings and field crops will reacquire some of their old glory.

Shipping fruits are striking a fair gait. Lt.-Governor Alden Anderson is reported to have estimated that "the people of the Eastern cities will pay at least \$4,000,000 for the products of the growers of deciduous fruits of California this season. Of this it is estimated that over 50% will be profit to the growers." We presume Mr. Anderson did not say quite that, for that would be too good for anything. If the grower gets over half the gross value at Eastern points he will be doing better than usual, and out of that he has to pay all the costs of growing and handling the fruit on the ranch. What remains as "profit to the growers" is of course much less; but as prices are now running on deciduous fruits, the grower is doing well and may be able to forget former less comfortable experiences. The shipments this year are 2294 carloads as compared with 2415 at this date last season. It is believed that the shippers will catch up before the close of the season if grapes go well, for there is a large crop of fine grapes to be disposed of.

Grain is booming. Both spot and futures on wheat are up a dollar per ton, although there is said to be only one export buyer operating and no clearances this week. Evidently the situation in wheat and barley is intrinsically strong. Charters are playing all kinds of pranks. A re-charter is reported for 24,000 tons of barley at 16s with 800 tons of wheat put in for ballast or an average of about 12s 9d if the wheat pays its passage. A second re-charter on the same ship is reported at a lump sum supposed to be about 14s. A straight charter for barley is reported at 16s 9d. There are eighteen ships on the engaged list and plenty on the way, so that cheap rates abroad seem to be assured. Barley has advanced 50 cents per ton for futures, which will make some who have sold kick themselves probably. Oats are firm, but not higher. Corn is higher and scarce; buckwheat is up and rye is strong. It is a grain grower's year. Dry beans on spot are not doing

much, but there seems to be quite a disposition to buy ahead; \$2.65 is said to be offering along the Sacramento for large whites, delivery within sixty days. Millfeeds are unchanged, through crushed grains are of course higher. Hay is higher; local buying and export are both active. Beef and mutton are unchanged, while hogs are looking down, but, as yet, unchanged. Butter, except strictly choice, is weak. Cheese is in little better supply and easier on flats, though small cheese still holds up. Fresh ranch eggs are raised, partly probably to help stored eggs out of the cold. Poultry is in lighter supply and doing better. Potatoes have been firm most of the week and in light supply. Onions are a trifle firmer. Tree fruits are in rather full supply and as canners are working largely on contract supplies, they are careless about current receipts. Citrus fruits are unchanged and rather slow. Dried fruits have met a heavy trade in old prunes; some sizes are cleaned out and others low in stock. The raise in futures to 3@3½ is said to have stopped European buyers for the time being. Almonds are strongly held. The bids at the Contra Costa offering last week were rejected. Saturday of this week about 240 tons are offered for bids at Davisville. Eastern buyers are said to be talking 11c for new walnuts. Honey is firm but prices are unsettled. Hops are very quiet. Wool is still waiting for fall clip, though 357,400 pounds went out in the grease by steamer to New York this week.

The visit of the Texas horticulturists, mentioned upon another page, is complimentary to California and should be accepted in that way. Texas has a great ambition to make fame and fortune by turning part of her immense domain into a reservoir of peaches, and comes to take lessons of California, who is an elder sister in that line and has a reputation for doing great things in that line. So far as we know, the Texas peach prediction is reasonable, but Texas can never grow a California peach nor make a California product of dried peaches. Her fate is cast on the wrong side of the mountains and under the wrong sky. Of course, just what will be the commercial outcome of the issue between California peaches and Southern peaches we cannot foresee, but we apprehend that Southern peaches will have issues to settle between themselves before the final issue with California comes and by that time we can probably set apart a few weeks for the victor in the first conflict and take the rest of the season for ourselves. But what does that matter? Our Texas friends come to see and they should be cordially welcomed to see everything that interests them.

Closing efforts are being made to gather in enough signatures to the raisin association contract to cover 75% of the crop. At the present time the percentage seems to be below 55%. If the 75% is not reached, the directors say they can not make any attempt to fix the price. The difficulty seems to be with the local meetings which are now being held through Fresno and Kings counties, in that, as Mr. T. C. White puts it: "Nearly all who are present, and there is quite a good attendance, have signed already. But the people we go out to reach stay away from the meeting. No one seems to have any objection to the contract or to the conduct of the business of the Association, and yet about half the growers don't sign, and they don't give any reason for not signing." This is an old trouble. It is the vis inertia of the agricultural class which serves well in many things as a conservative element, but too often stands as a barrier against agricultural advancement. It ought not to be so. Every votary of an industry should be a person of action according to conclusions carefully arrived at, and should not be a drifter. This raisin combination for one year seems to be the surety of value in the crop. It certainly should not be thrown away.

The Prune Association has just put out a dividend of \$88,394.34. If the Association gains its suit with the packers' company and recovers \$125,000, which it hopes to do, another dividend will be paid. It is stated that the office force will be reduced to the secretary only. No money will be expended for anything except for paying the secretary and rent, and for equal expenses, until such time as there is some business to attend to in connection with association affairs.

## QUERIES AND REPLIES.

### Care of Ginseng Seedlings.

TO THE EDITOR:—I have quite a large bed of ginseng seedlings on a deep sandy loam. I spaded in a liberal amount of stable manure, together with a coating of about 2 inches of decayed peat, but still the winter rains beat it so that it stays tough all summer. It cannot be cultivated on account of the danger to the roots; if it could be the soil would be friable and in good condition physically. The soil being so compact and shady causes a great deal of moss to grow in the beds. I have part of my beds shaded with lath and part with cheese cloth. Under the lath shade there is no moss, but the plants are scorched more or less, while the plants are doing finely under the cheese cloth. I irrigate by sprinkling about every three or four days. I want to know what I can put on the old plants to kill the moss and when and how to apply it? I also want to know what fertilizer is best to use and when and how to apply it? In the seed beds that I am about to plant I would like to know what to add to the soil to keep off the moss and to prevent plants from damping off?—READER, Los Angeles county.

In treating the soil under your ginseng seedlings you can borrow a suggestion from the better soil condition which you secure with the lath shelter and try and imitate the conditions produced by the lath. The reason why the soil under lath is in better condition is that there is enough sunlight to dry out the ground surface, while under the cloth this is not the case. You can remedy matters by removing the cloth for a little time, now and then, so that the surface shall become dry, but the drying need not proceed far enough to rob the seedlings of the needed moisture below. A desirable condition can also be promoted by sanding the surface to a depth of about ½ inch with clean, dry sand. This will not prevent the tendency to baking in the soil, probably, but the sand will part with its moisture readily, and possibly this treatment would succeed without opening the bed to the sunlight. The scorching of plants under the lath can be obviated by making the openings less—say, by throwing a little light brush on the lath. Success with seedlings depends largely upon getting light and shade proportions just right.

It is very easy to use too much fertilizer; in fact, with ordinarily good soil it is not desirable to use fertilizers at all until the plants gain considerable strength. Sulphur is a remedy for fungus growths and might be sparingly used, but we believe if you get the soil surface into suitable condition of dryness you will have no more trouble with the damping off or with the growth of moss.

### California Storax.

TO THE EDITOR:—I send a twig which I plucked from a bush on the bank of the American river near Newcastle. It grew in a clump of live oak, poison oak and other shrubbery, and the bush was about 10 feet in height. I suppose it is hazel nut, but would like you to give me both the common and botanical names.—T. W. MADELEY, Sacramento.

The plant is not a hazel nut, but is California storax—botanically, *Styrax californica*. The storaxes are ornamental shrubs—some species deciduous, some evergreen, generally of handsome, graceful habit, loose and spreading, flowers numerous, white and mostly fragrant and well adapted for borders or single specimens on lawns. They have no economical importance, except that some of the species yield fragrant gums, or resins, the well-known benzoin being an exudation from a styrax of the same specific name.

### Vinehoppers.

TO THE EDITOR:—Is there any successful exterminator for the troublesome little grape hopper?—READER, Capay.

You can exterminate all which you persuade to drop into a shallow pan of water floating a film of kerosene. This, of course, works best early in the season, before the vines have run out much. No such successful treatment as you desire has yet been invented.

### Suckers For Buds or Scions.

TO THE EDITOR:—Can water sprouts or suckers be used in budding or grafting purposes with good results?—READER, Capay.

There is some difference of opinion on this point, but the weight of experience is in favor of rejecting these brash growths.



**Prunus Simoni.**

TO THE EDITOR:—Can you give me any information about Prunus Simoni? Is it a marketable fruit when fresh? Can it be successfully dried? Can it be successfully pitted for drying? Is there any knife or instrument that will successfully remove the pit? Is there anything standing in the way of raising it in a commercial way? We have one tree, planted four years ago in a piece of rather poor soil, covered heavily with the washed down gravel from a public road. It made slow growth and yielded a few fruits last year, and perhaps half a peck of fine large plums this year, commencing ripening as early as July 1st. —FRUIT GROWER, Dulzura, San Diego county.

The Prunus Simoni is hardly worth consideration of planters, except where there is a local market which will take it as a table fruit. For export to the East it has been considerably grown in the upper San Joaquin valley and sometimes has proved very profitable because it comes early and is very showy, but the planting in that district has already passed the limit of profitable commercial production. It cannot be successfully dried because of the thinness of the juice and the peculiar acrid flavor which is intensified on drying. For this reason, although such knives as are used for cling peaches could perhaps be used in pitting the Simoni, there is no object in using them. The plant ought to be planted, if at all, with the most definite ideas of what can be profitably done with it.

**Salt Bush or Alfalfa.**

TO THE EDITOR:—Can you give me any information regarding "Australian salt bush grass"? I see it recommended for dry land. How is it to be compared with alfalfa on loam land with irrigation? Is the quality and quantity as good for milk production, etc.? —SUBSCRIBER, Edenvale.

We have frequently tried to state this matter plainly; for instance, on the first page of the PACIFIC RURAL PRESS for June 20. It seems difficult, however, to make ourselves understood. The salt bushes are not to be compared with alfalfa in value for land on which alfalfa will grow well. The bushes are nutritious and by analysis compare well with alfalfa, but they are not so acceptable to stock, nor can they be handled for hay as alfalfa is. Their chief use seems to be for growth on alkali land where alfalfa will die out or refuse to grow at all, and for dry lands incapable of irrigation where a certain amount of rather coarse feed can be secured from it, and which is especially valuable for sheep. We do not count salt bush as of high rank as a dairy feed, because cattle will seldom eat it freely unless scant of what they like better, and no cow can do well from a modern dairy point of view unless she has all she can get into herself of what she likes best. Salt bush pasturage may serve a good purpose to carry dry dairy stock for a time, but for cows in milk it is not on the list.

**Unthrifty Orange Trees.**

TO THE EDITOR:—Can you give us any information in regard to the die-back on orange trees? This disease, or whatever it may be, has shown itself quite a good deal this season in the central California orange section. First the leaves drop off and then the wood begins to die back. In some cases the tree loses leaves enough so that you can see right through them. The worst cases occur on soil that has not been fertilized very much, but it also occurs on soil that has been fertilized right along, both with stable manure and commercial fertilizer. It, however, does not seem to attack trees that are less than five or six years old. Can it be that the older trees have exhausted some element of the soil which the fertilization has failed to replace, or is it some fault of the tree itself? —ORANGE GROWER, Tulare county.

It is not likely that the trouble comes from exhaustion of the soil. It is probably due to inhospitable condition of the soil, which might be due to one of three things. Occasionally trees strike alkaline salts as their roots extend and suffer therefrom, but this is rare. Usually the moisture conditions are at fault and similar results are produced by both lack of moisture in the subsoil or excess of it. When the trouble arises in good, fairly retentive soil, especially when that soil is but a few feet deep and over bedrock or hardpan, it is most often due to the collection of surplus water, which cannot escape from lack of drainage. If this is true it can be demonstrated by digging, and the subsoil will be found to be slushy. If the trouble is due to insufficient irrigation the subsoil will be dry. Trees which are dying back from

too much water in the subsoil may often be temporarily helped by fertilizing, because the fertilizer assists in the growth of surface roots, but the proper treatment is drainage, which will bring the lower soil into condition acceptable to root growth. Make a few prospect holes near the suffering trees and tell us what you find.

**Who Knows the Alpine Fig?**

TO THE EDITOR:—I write to inquire of you concerning a fig tree that I heard mentioned while in California last fall. It is called the Alpine fig, and the man who was selling the trees claimed that it would grow in any climate where peaches would grow. He described it as more of a shrub than a tree, and said it should be cut back to the ground every year, that it would sprout from the roots and bear the same year. I am setting some fruit trees on a ranch in New Mexico. The altitude is 3300 feet and temperature rarely below 20° above zero. The land is irrigated. If the man who told me of this fig spoke the truth it will do well there. —READER, Talmage, Iowa.

We do not know anything about the Alpine fig. If you could tell who it was that mentioned it to you, or where his nursery is located, if he has one, we could obtain information and give judgment as to the trustworthiness of the claim. Our impression is against it. We presume you encountered a tree agent with his nursery in his hat. The best way, however, to find out about figs which are likely to succeed in trying positions is to appeal to the pomologist of the United States Department of Agriculture, Washington, D. C. They have looked into the matter of hardy figs and varieties which can be put under ground during the winter, and know a great deal more about such things than we do, because with us, in all places where it is desirable to grow figs on a commercial scale at all, the tree is hardy, profitable and productive, grown as a high standard and taking its chances in the open air without protection. If your temperature drops occasionally below 20° it would put you out of the fig business on the plan pursued in this State. You will have to lay down or otherwise protect the trees.

**To Irrigate or Not to Irrigate.**

TO THE EDITOR:—Referring to your favor just at hand, I learn you are in quest of facts and conclusions from those who, having had experience with irrigation, can give results of the market value of fruit produced by irrigation, etc. It appears like a misfit to apply to me on this subject, as we have an annual rainfall of 26.6 inches and everything in Sonoma county is grown without irrigation; so I don't see how I can help you. —READER, Sonoma county.

Our correspondent refers to a letter we sent him in connection with the irrigation investigation described on another page of this issue, and as his response to our question has a wide bearing upon the whole subject of the advantage of irrigation, we speak to him and others in open meeting in this way: We appealed to you for observation on the matter of irrigation in fruit growing because we wished to get, if possible, reports from growers who are on the border land between irrigation and non-irrigation. Ordinary impressions that in any locality with 25 inches of rainfall irrigation is not desirable, will not hold everywhere. On your rich, deep bottom land, properly cultivated, we have no doubt that you are right in your view that irrigation is not necessary; but we are quite sure that on shallower uplands or on coarse, gravelly bottoms irrigation might be decidedly of advantage, even with the same rainfall. The same thing is true in other valleys of Sonoma county, where even on bottom lands there are gravelly streaks through which the water escapes; the trees come into distress in the middle of summer and can only be brought to vigorous condition and satisfactory fruiting by the use of irrigation. These things are true in nearly all parts of the State, no matter what the rainfall may be, and an effort to mark out these differences more definitely is one thing we have in mind in the investigation.

Even in places where the rainfall seems adequate and the soil suitable for retention of the moisture, it is a fact that much better productions can be secured by additional water. This is being clearly shown by careful experiments in the Eastern States, where, until recently, irrigation was not thought of. They have demonstrated in Wisconsin, for instance, that the yield of corn may be almost doubled by using irrigation in addition to what has always seemed suf-

ficient rainfall. Profit lies in bringing a tree up to its maximum vigor and growth and it is then able to produce full-sized fruit of the highest quality, and the same is true of grain, vegetables, forage plants, etc. So, you see, it was no mistake in sending the inquiries to you, because we are very anxious to find out what experiments people have made in those very places where irrigation is usually considered unnecessary and undesirable.

**WEATHER AND CROPS.**

Report of the U. S. Weather Service for Week Ending July 27, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

**SACRAMENTO VALLEY.**

The weather was clear and cool during the week, but generally favorable for crops. Harvesting and thrashing are progressing, and good crops of wheat and barley are being gathered. The wheat crop is reported less than last season's in some places and of inferior quality in others, while other reports show about an average yield and good quality. The cool weather retarded the ripening of deciduous fruits to some extent, but this will not be detrimental to the quality or yield, both of which are reported excellent. Heavy shipments of pears, peaches and prunes are being made from Sacramento and other places, and dried apricots are going to market in large quantities. Almonds at Willows are ripening rapidly. Grapes continue in good condition and will yield heavily. Oranges at Palermo are looking well.

**COAST AND BAY SECTIONS.**

Cloudy or foggy weather prevailed along the coast and generally clear weather in the interior. The temperature was below normal in all sections. Harvesting, thrashing and hay baling are in progress. Wheat is said to be below average in some places, but barley is yielding a good crop. The hay crop is not up to expectations, but is of good quality. Beans are doing well and will yield nearly an average crop. Hops are said to be of superior quality, but the yield will probably be light; harvest will commence about August 25. Apricots are yielding better than expected in some sections and are of excellent quality. Apples will yield a good crop. Grapes in all sections are reported in splendid condition and large yields are expected. Cool weather retarded the ripening of fruits, but all are reported as doing well.

**SAN JOAQUIN VALLEY.**

Clear, cool weather prevailed during the past week. These conditions greatly retarded the ripening of fruit and melons. Grain harvesting and thrashing continue in some localities, and the crop is fair. Large quantities of grain are being stored in the warehouses. Cutting and drying of fruit are progressing. The peach crop is large and of excellent quality. Reports generally indicate a large grape crop, but in some sections there is complaint of mildew forming on the grapes, owing to cool weather. The watermelon crop is large and of excellent quality. The outlook is good for a large orange crop. Vegetables are in fine condition. Irrigating water is getting scarce.

**SOUTHERN CALIFORNIA.**

The weather during the week was favorable for crops, fogs in the coast districts benefiting beans and beets. Heavy crops of wheat, oats, barley and hay are being harvested in nearly all sections, and all are said to be excellent in quality. Sugar beet harvest is in progress at Anaheim and Santa Maria, the crop is reported good. Late potatoes are being planted. The crop of mustard seed at Lompoc is turning out better than expected. The yield of honey at Poway is light. Grapes in all sections are in good condition and will yield heavily. Oranges and lemons are progressing favorably. Apricots are nearly all gathered. Other deciduous fruits are ripening and will yield fair crops.

EUREKA SUMMARY.—Harvesting, thrashing and hay baling progressed rapidly. In the middle and southern portions of the county the yield of hay and grain is good; in the northern portion, fair. Crops are generally better than expected. Some early apples are ripe.

LOS ANGELES SUMMARY.—Cooler week, with morning cloudiness or fog in coast sections; good weather for beans, which are blooming heavily. Warm, clear weather in the interior favorable for fruit drying. Late apricots and early peaches are keeping the farmers busy.

**Rainfall and Temperature.**

The following data for the week ending 5 A. M. Wednesday, July 29, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka.....	.00	.05	.25	.09	64	50
Red Bluff.....	.00	.01	.00	.02	98	56
Sacramento.....	.00	.00	.00	T	90	52
San Francisco.....	.00	.00	T	.02	66	52
Fresno.....	.00	.01	.00	T	100	56
Independence.....	.00	.00	.17	.06	80	94
San Luis Obispo.....	.00	.00	T	T	84	48
Los Angeles.....	.00	.00	.00	.02	82	52
San Diego.....	.00	.00	.92	.04	74	60
Yuma.....	.00	.00	.11	.14	108	70



## THE ORNITHOLOGIST.

### Save the Song Birds.

By JOSEPHINE CLIFFORD McCrackin, President Ladies' Forest and Song Bird Protective Association of Santa Cruz County.

"Save the Redwoods!" was our watchword and our battle cry, the grand aim of our aspiration and the object of which we dreamed at night and for which we worked all the day. Not we of the Sem-pervirens Club alone, but each son and daughter of our Golden State, every loyal citizen of these United States, for when the Big Basin was saved from destruction it was not for California alone, since every State in the Union is benefited by the acquisition of our State Redwood Park.

THE SONG BIRD SOCIETY.—"Save the song birds!" is our battle cry and watchword now, and we of the Ladies' Forest and Song Bird Protective Association ask through these columns the help, not only of the legislative body of the State, but of every inhabitant, man, woman and child, for they all can aid us in our work—a labor of love—but which seems harder to carry on than the work of saving the redwoods. Men who could grasp the utilitarian idea of redeeming the forests grants from impending doom listen with an indulgent smile to our pleading for the life of our little feathered songsters, convinced in their masculine heart that women are sentimental always, and sometimes worry themselves and others over the most nonsensical things.

Nevertheless, the protection of song and plumage birds—insect-eating birds—has become an object of vital importance, not alone to us farmers and fruit growers of California. The destruction of our orchards and grain fields by insects, worms and caterpillars, which the birds that are dead can no longer eat, is but a part of the loss accruing from the wanton killing off of song birds and the still more heartless slaughter of the plumage bird, as carried on at present.

Though no foolish sentimentalism can be charged against us women in our work, I admit that there is a sentimental as well as an economic side to bird protection; and I have pointed out elsewhere that to the man who comes here from the Eastern States or foreign countries, the absence of song birds, the utter lack of bird life and bird song in the country, is so serious a drawback that I have known people to change their intention of building up a home in a place where the song bird had been exterminated. It positively does not pay to kill every bird that dares to take a cherry from a heavily-loaded tree, or is thoughtless enough to spread its bright wings where the net and the snare of the detestable, contemptible milliner-hunter can capture it.

REMINISCENCE.—What an impression is made on people fresh from the older States by the wholesale murder of song birds I can testify to from my own experience. Over thirty years ago, when I first came to California to make my home, I was visiting in the Santa Clara valley, near San Jose, in June. D. T. Adams had one of the earliest and finest orchards there, and his cherry trees were especially prolific bearers. The charm of the country was something wonderful to me; the beautiful gardens, the song of the birds in full chorus in the early morning hours, and the orchard with its long rows of thrifty trees. These were naturally the theme of conversation among the guests at the house—new arrivals in California like myself. Mr. Adams was a Yankee from Maine, his wife a Missouri woman; one visitor had been a resident of Illinois, the other was from Wisconsin, and among them there came to be but one opinion—that California, with its favorable climate, was the only place in which fruit could be grown to perfection, on account of the entire absence of insect pests. Never was there an apple here with a worm in it; never a plum, a prune or a peach troubled with borer, by caterpillar or curculio, such as were found in the older States, and from which the plantations of these men had suffered. It was the climate here, they said, that kept this blessed land free of all such plagues. What glowing accounts I wrote back to my Missouri friends, and my friends in Iowa and Alabama! I was flourishing and waxing fat on the song of a thousand bird throats in the morning, and the absorption of delicious California cherries all day long. But my enthusiasm came to a sudden end one morning as I strayed around the orchard and visited the cherry trees. I saw Mr. Adams take up a shotgun that stood against the fruit house, and, thinking he meant to shoot a chickenhawk, I watched to see it drop. Instead, there fell almost at my feet a bird—no doubt an oriole—with feathers purplish black and orange, and I looked up in alarm, for my host uttered an expression of satisfaction.

I picked up the poor thing in its death struggle, and, as it lay on my hand, it opened wide its frightened eyes, pleading mutely: "Oh, please don't hurt me any more; I'm hurt to death already." I held out my hand and asked:

"Did you mean to shoot it?"

"Why, yes," he replied, in the most matter-of-fact manner, "that's what the gun is there for."

I marched straight into the house, and, forgetting policy and politeness, I asked his wife:

"Do you mean to say that this is what they shoot at in the orchard?"

"Certainly," was the unhesitating answer; "there's no use being foolish about such things; these birds that sing so beautifully eat the cherries, and the men on the place have orders to shoot them where they see them."

How changed the country all at once looked to me! I observed the birds more closely after that and found so many different kinds beside the bluejay, which I hated for his thievish ways and harsh screeching. I knew he needed killing. But the song birds—the bright, beneficent creatures that made the morning glorious with their music and lay dead at night, their little bodies tossed to one side by the hand that murdered them, when there were too many dead to be left under the tree—how could men find it in their hearts to kill them?

RESULT OF BIRD KILLING.—That was the beginning of the destruction, not of the song bird alone, but of our orchards and grain fields, too; for our climatic conditions have not changed; they are still more favorable for the growing of fruit and grain than those of any other country; but our little, efficient aids—the song birds, from the oriole, the yellow-hammer, the titmouse and the blue bunting, to the robin and the meadow lark—are no longer with us; the Agricultural Department of the United States has had to be appealed to to become our aid; but all the noxious sprays, all the artifices used in applying fertilizers and manures, will not do the work that our feathered friends did for us.

I am not preaching what I do not practice. A rancher's wife, I have lived for over twenty years on this place, which we built up, and I have an eye myself to the butter on my bread, for we must live on the proceeds of our vineyards and orchards—cherry orchard included. Sometimes I wish that cherry orchards might be abolished, or given into the keeping of only those who can control the greed and the fury that seem to take possession of most men when cherries begin to ripen, and the birds, who have been with us, one kind and another, all through the winter, really do take a few of the earliest kinds. Again I speak from experience and personal observation when I say that the bluejay is the culprit for whom the smaller birds suffer punishment. This blue-coated rascal will pull off the whole cluster of cherries if only one of them happens to have a red cheek. The mockingbird alone, outside of the bluejay, would be powerful enough to pull off these clusters, and mockingbirds are not plentiful, and have never been accused seriously of taking fruit of any kind. The smaller song birds, after getting a bite of the earliest fruit or berries, do very little, if any, injury; certainly not one-thousandth part of what is done by codlin moth, red spider, caterpillar, scale, bark lice, canker worm, and not to cherry trees alone, when the birds have been killed and the insect pest takes possession of the field.

The trouble is that many orchards are rented out by their owners, and those who have rented them—often foreigners who will never make this country their home—are intent only in getting out of them what they possibly can; they care nothing for the waste and destruction they leave behind them. To be sure, in some cases, even the owner of the orchard is shortsighted enough and cruel enough to want every bird killed, even though every bird had eaten three times its weight of harmful insects to where it had eaten one cherry. But the instinct to kill something lies dormant in every boy's breast, and is too often fostered by the foolish parents, who will buy Johnny a popgun and boast of his prowess in bird murder, not considering that when Johnny grows up this murderous instinct will grow up with him, if not checked, and may lead to the killing of some larger game before his life is closed.

## THE STOCK YARD.

### California for Shorthorn Breeding.

State Fair Director Edward W. Howard writes for the Butchers' Journal an enthusiastic sketch of California as a field for Shorthorn breeding: Traveling from time to time through this great State, one sees the grain fields gradually giving way to a variety of irrigated crops, particularly an ever-increasing alfalfa acreage. In place of the waving grain, you see here the dairy herds, there the little bunch of Shorthorn steers. Such a sight to the lover of the red, white and roans results in speculation as to what will be the future of the breed in this State.

Judging the future by the past history of the breed, we see that there are many factors which go to make this State the Shorthorn stronghold. Have we first the substitute for the green meadows of England, the succulent turnip and the roots of Scotland or the blue grass of Kentucky? The answer we find in these very alfalfa fields, for alfalfa is equal to any one of the above in food value, and in some respects to all three, for alfalfa is primarily a bone and muscle producer, rich in protein.

In climate we have a great advantage—an advan-

tage hard to overcome—for close stabling with all its consequent ills is unnecessary, though shingles are always cheaper than feed as a means of conserving animal heat. Too much weight cannot be put upon these favorable conditions of climate and available food supply as we find them in California, for environment is one of the prime factors in evolving types, as breed prepotency has little weight when hampered by unfavorable environments. Early maturity and aptitude to fatten cannot be developed in cattle, nor even transmitted when they are subsisting on either an insufficient or unsuitable ration. They must be kept in good, thrifty condition, showing ample covering of flesh, for thick-fleshed cattle beget thick-flesh stock.

Therefore, having the natural favorable conditions, and assuming that if we have not now the proper material to work with, our breeders will use every endeavor to secure only the best and will exercise sound judgment in the future selection of their breeding stock. It is not assuming too much to say that from now on California will make Shorthorn history, and that the breeders of the corn belt will look to California for breeding stock and herd headers as well as to the grass-fed herds of England and the root-fed herds of Scotland to revitalize their corn and cotton-seed cattle.

This is a possibility, but we need an Amos Cruickshank to cast aside the fads and fashions, to value true Shorthorn character at its worth, one who will take advantage of the law of variation, and by selection build as well as the "Sage of Sittytton." To too many of our breeders a cow is a cow be she ever so sour of disposition and lacking of true cow character.

The conclusion that we are bound to reach seems to be that the master hand is lacking, or perhaps it would be truer to say, has not yet been stimulated to activity by genuine appreciation of and consequent demand for good, useful, rent-paying cattle.

## THE IRRIGATOR.

### Character and Value of Irrigated Fruits.

An investigation into the character and merchantability of fruits grown by irrigation has been undertaken by Prof. E. J. Wickson of the horticultural department of the University of California, working with the department of irrigation and investigations of the United States Department of Agriculture. The aim will be to secure facts and conclusions from those who have had experience and observation both with and without irrigation, so that comparisons of results by each method may be made. Such a study has never been made, and it is hoped that the work will clearly establish the importance of irrigation in developing fruit up to satisfactory commercial standards.

Prof. Wickson hopes to enlist the aid of orchardists, canners and driers in securing his information, since all three classes would be benefited by the results of his study. Irrigated and non-irrigated orchards will be studied alike in order to determine the influence exerted by adequate moisture supply in the development of size and quality in their product. Hundreds of growers will be communicated with.

In the canneries and driers Prof. Wickson hopes to determine the proportion of irrigated and non-irrigated fruit which meets the standards of the buyers. He believes that the market is the criterion by which irrigation results are to be practically decided. The canners may be particularly aided in this study, for so much fruit falls below the standard for lack of moisture, and has to be rejected, that much friction is caused between the canners and the growers, and in making contracts this troublesome factor has always to be taken into consideration. Some growers, by the proper use of irrigation, have been able always to deliver to the canners fruit which yields on grading only a small percentage of culls, while many are disappointed in finding a large part of their product rejected.

The truth of this hypothesis as to the relative standing of fruit grown by wise irrigation and that which has to take its chances by rainfall can be best ascertained by securing the mature judgment of those growing and handling fruit. The weight of their experience should settle the matter from a practical point of view. A few questions have been prepared, merely to suggest lines of fact and judgment which seem pertinent, and all who have reached conclusions in the matters involved are requested to either frame answers to these or to give facts in their own way as to whether they find irrigation an advantage or not, and how this is shown in the product.

The following is the list of questions to which replies are requested:

1. Name and address of grower.
2. What fruits have you grown?
3. Can you give weight or measure of the product of a single irrigated tree, or vine, or per acre, compared with non-irrigated?
4. Is there any difference in regularity of bearing?
5. How do irrigated and non-irrigated fruits com-



pare in size, flavor, aroma and general appearance?

6. What has been your experience in shipping irrigated fruits or in selling to shippers?

7. What has been your experience in canning irrigated fruits or in selling to canners?

8. What has been your experience in drying irrigated fruits or in selling to driers?

9. Has your irrigated fruit won prizes or awards at fairs or expositions? If so, when and where?

10. Do you know of fruits or fruit trees or vines being injured in any way by irrigation? If so, in what respect?

Photographs showing trees or fruits grown with irrigation and those for which no irrigation is used are earnestly desired in order that many significant pictures may be used in the report. Any help which readers of the PACIFIC RURAL PRESS will give will be sincerely appreciated.

## HORTICULTURE.

### A Distinguished Delegation From Texas.

E. J. Wickson, Horticulturist University of California, Berkeley—Dear Sir: On July 25th a committee from the Texas State Horticultural Society will start via the S. P. Railway to California for the purpose of studying the orchard and fruit situation, to learn methods employed, etc. Their first stop will be in Los Angeles and from thence they will proceed to San Francisco. I shall be pleased to hear from you with suggestions about the itinerary of the party as soon as possible. The personnel of the party is as follows: T. V. Munson, J. S. Kerr, E. W. Kirkpatrick, A. K. Clingman, F. W. Mally, Prof. E. J. Kyle, F. T. Ramsay, C. Falkner and the writer—SAM H. DICKSON, Secretary State Horticultural Society of Texas.

The committee which Texas has sent to look into California fruits is a notable one. Prof. T. V. Munson is the best authority in the United States on American species of grape vines. He has been an important factor in the horticultural development of Texas, and has held responsible positions under the United States Government as horticultural commissioner to European countries. Many of his hybridized vines are now being tried in California by local grape growers. F. T. Ramsay is president of the State Horticultural Society and Sam H. Dickson, its secretary, is also passenger and immigration agent for the Houston, East and West Texas Railroad Co.; E. W. Kirkpatrick is president of the Texas Nurserymen's Association and vice-president of the Texas State Farmers' Institute; John S. Kerr is secretary of the Nurserymen's Association; Prof. F. W. Mally, formerly of the Texas College of Agriculture, is now president of the Southwest Texas Horticultural Association; Prof. E. J. Kyle is horticulturist of the Texas Agricultural Experiment Station; A. K. Clingman and C. Falkner are leading fruit growers and capitalists.

The impulse back of the present trip of the Texans is the phenomenal boom in fruit tree planting, which has swept over northern, eastern and central Texas during the last year or two. Colossal fruit-growing enterprises, orchards and truck farms are springing up and replacing the lumber industry of a few years ago. Not only are the farmers and small planters taking part in this great movement, but capitalists, investors and stock companies are becoming orchard developers.

This boom is part of an agitation which has been gathering strength for a long time. The leading journals have worked hard and successfully for years for diversification from the "all-cotton plan" of the South, and the new fruit-growing and truck-farming industry is the present day result. Texas has two or three days' start on California in her contiguity to the markets of the Atlantic seaboard, and this point gives the Southern State the hope that it can make its rivalry with California a matter of the keenest competition. Texas proposes to learn by careful investigation how California grows fruits and sells them.

So far as the writer can remember this is the first time a State society has appointed a committee to investigate the horticulture of another State. We have had national societies meet here, and we have entertained foreign commissioners, but we have never had a large committee of experts invade our State with the avowed intention of learning from us the secrets of our horticultural supremacy. At first it would seem to be a bad policy to show them everything that we are doing, but second thought would show that this would be the most advantageous course, for the committee will publish its report on its return, and this report will reach the outside world and do more for advertising the State than any literature we could prepare. Not only for this reason, but because of the fraternal spirit which should prevail among fruit growers, we expect the delegation will be warmly and widely welcomed in California.

### Petit Grain, or Essence of Orange Leaves.

By CONSUL JOHN N. RUFFIN at Asuncion, Paraguay.

The industry of making essence by extracting the same from orange leaves dates back to the time when the Jesuit priests held sway over the Indians,

more than 150 years ago. In those times the trees were planted by the priests with an eye to their value for essence making. They imported the seeds of the oranges suitable for this purpose, for orange groves abound in the districts where the priests lived. To-day they form immense forests in those sections, which are full of small establishments for extracting essence. The natives for some time have looked upon essence of orange as a valuable healing ointment. They apply it to wounds and cuts—also to wounds of beasts where worms are likely to infect—declaring that it has such a penetrating force that it permeates every part of the flesh affected, curing the diseased parts very quickly. They also inform me that it is a fine hair tonic—by rubbing it into the scalp it causes the hair to grow. Its application in the soap making and perfumery industries is well known in commerce.

The essence is principally manufactured by French people. However, there are people of other nationalities, including the natives, who manufacture it. The orange peel is prepared for shipment and used for the purpose of making bitters, marmalades, etc. The essence is shipped in large, hermetically sealed cans, which are packed in strong wooden boxes. The law of this country grants free exportation to "petit grain" manufacturers. The quality of the essence seems to be very good, and most of it is shipped to France, from which country, I believe, it finds its way to the United States. Some is shipped to the United States direct, in which case, I am informed, it is made a little cheaper for the American market. I am also told that in some cases in gathering the leaves of the trees for essence of orange large branches are cut and even trees felled. The wood thus wasted could be exported to the United States for the manufacture of toothpicks, etc.

## FORESTRY.

### Australian Trees.

By CONSUL ORLANDO H. BAKER, Sydney, New South Wales.

The rapid decimation of forests in the United States has awakened the question as to the best manner of their restoration. It is thought profitable to consider the claims of trees not indigenous to America to be cultivated on the denuded lands, especially on hilly, rocky ground, or ground unfit for farming. On this account I wish to call attention to some of the native trees of Australia. These trees are being successfully grown in California and in other States similar in climate to California. [There are mighty few in this latter class.—ED.]

The forests of Australia generally have a monotonous appearance. This is caused by the presence everywhere of the Eucalypti, of which there are many species. There are, however, trees of other genera, notably of the Angophora, etc.

The parklike appearance of the open forests and the beauty of the many flowering shrubs win admiration in spite of the sameness of the trees. Even the dull, grayish blue of the foliage of the gum trees, when relieved by the yellow blossoms of the wattle, including the graceful myall or the beautiful and shapely kurrajong, is not without its attractiveness. The trees for the most part are straight and cylindrical in the trunk, and when full grown their first branches are at a considerable height from the ground. The roots of the eucalyptus often lie at no great depth from the surface, an adaptation of nature to the peculiar climatic conditions of the country. The finest specimens of most of the timber trees—those yielding the most valuable timber—are found on ridges and hillsides and in places frequently too rough and stony for cultivation. This circumstance is in many ways fortunate for the State. In the course of settlement, when the rich plains are denuded of their trees, and when scarcity will make timber more appreciated and valuable than it is at present, land not adapted for agricultural settlement will still be available for the cultivation of the finest trees. Among the many trees of commercial value, immense specimens of red gum (*E. rostrata*) and apple trees (*Angophora subvelutina*), on the northern river flats, mark the course of the streams, while on the ridges and mountain sides other species predominate, such as the white or she iron bark (*E. paniculata*), narrow-leaved iron bark (*E. crebra*), broad-leaved iron bark (*E. siderophloia*), mugga or red iron bark (*E. sideroxylon*), black butt (*E. pilularis*), white mahogany (*E. acmenoides*), tallow wood (*E. microcorys*), spotted gum (*E. maculata*), gray box (*E. hemiphloia*), red mahogany (*E. resinifera*), gray gum (*E. punctata* and *E. propinqua*), forest red gum (*E. tereticornis*), and Sydney blue gum (*E. saligna*). Neither must the turpentine (*Syncaurpic laurifolia*), one of the most beautiful trees of the State, nor the bush box (*Tristania conferta*) of the northern rivers—a tree much in request for ornamental purposes—be forgotten.

**SUGAR GUM PREFERRED.**—The most of the Eucalypti are of very slow growth. Iron barks, of which there are four different species—commonly called red, white, black and gray—may be classed as our

best timber for engineering structural purposes, such as beams or girders for timber bridges and buildings, piles in harbors, and railway ties or sleepers. For the latter purpose the timber has been known to last for from twenty-five to thirty-six years. It is a proven fact that iron bark is one of the best, if not the best, hardwood timbers in the world. From its very slow growth it could not be recommended for planting in the United States, nor could many species of the Eucalypti be recommended except *Eucalypti corynscalyx*, commonly called sugar gum. This species of eucalyptus is peculiar to South Australia, especially Kangaroo island, but has been largely planted in the State forests in that colony, and its rapid growth has been the subject of much comment during the past decade. Many of the sugar gum trees in the Wirrabarra Forest Reserve have attained a height of from 90 to 104 feet, and to a diameter of 34 inches, in twenty-five years. It is about equal to the jarrah of West Australia, and in this respect it may be classed as about the fourth best timber of Australia. Its weight runs from 64 to 68 pounds per cubic foot. For railway ties or sleepers it is almost as good as iron bark or red gum. Mr. John Wright, civil engineer, to whom I am indebted for facts stated herein, says that he knows some to have been in use for at least twenty years. As a mine timber it is second to none, throwing out but little noxious gas. It has been used in the Moonta and Wallaroo mines for the past thirty-five years, showing little indication of decay. For its rapid growth and general utility I recommend it in preference to any other species of Eucalypti. The Victoria Leader of May 23, 1903, has the following relative to this tree:

"The sugar gum thrives so well in a dry climate that the growth is quite remarkable. Trees (shown in an illustrated group) measured 29 feet in height in four years and eight months. Another group of three years and eight months measured 22 feet high, and trees in a very fine avenue,  $\frac{1}{2}$  mile in length, at two years and five months old, 15 feet in height. It will be seen from these figures of actual measurements that the trees grew at the rate of 6 inches per month, or 6 feet a year, since the date of planting, and as very little growth is made during the first six months the subsequent progress must have been at a greater rate. Another avenue,  $\frac{3}{4}$  of a mile in length, on the same property, contains trees which at one year and eight months old measured 9 feet in height. It is worthy of remark that, while all other trees require the ground to be kept in a state of cultivation for many years, it is only necessary in the case of the sugar gums to cultivate for year after planting. It has been unmistakably demonstrated by this experiments that forests of this handsome tree and timber can without difficulty be established on the driest portions of the Wimmera plains."

## THE RANGE.

### The Use of Branding Fluid.

Mr. G. H. True of the University of Arizona Agricultural Experiment Station discusses the use of branding fluids which have excited some interest in range circles as follows: In the fall of 1899 there were references in some of the agricultural papers to the use in New Zealand and Australia of a branding fluid which gave a legible brand but did not lessen the value of the hide for tanning purposes. In response to a letter of inquiry the writer received the following communication from the registrar of brands for Queensland, Australia: "A liquid branding material has been patented in New Zealand under the commercial designation of 'Gibson's Branding Liquid.' I submitted it to a severe test in this colony in February last, but, although the brands imprinted by its means were legible, it was found that when the animals were slaughtered, and the hides tanned, the leather was injured almost to an equal extent with that of the use of the fire brands. The patentees still hope to perfect it so that the hair will be completely removed without injury to the true skin."

In its issue of July 9, 1901, the Breeders' Gazette of Chicago called attention in its editorial columns to a combination of chemicals which it was claimed would take the place of the hot iron in branding cattle. Reports of the successful use of the fluid were said to have come from New Zealand, though conflicting reports as to its usefulness were received from Western cattlemen. The chief advantage claimed for its use was that the value of the hide of the branded animal was not lessened for tanning purposes. The article in the Gazette appeared but one year later than the receipt of the letter from the registrar of brands in Australia. The composition referred to "consists of equal parts of barium sulphide and coal tar, preferably thinned by a mixture of American potash and water in equal parts by measure, and of spirits of turpentine, each equal in measure to the original composition."

A quantity of the mixture was prepared for the writer by the station chemist. Two calves were treated as directed by dipping an ordinary branding



iron into the well-mixed fluid and pressing it firmly against the skin of the animal. The result was that on neither animal was there a scab formed over the attempted brand. The letters of the brand could not be made out even after clipping the hair.

Thinking to improve on the method suggested, a wooden form was made resembling the branding iron, but with much wider-faced letters—nearly  $\frac{1}{2}$  inch, instead of  $\frac{1}{8}$  inch. So far as the application of the fluid was concerned, this appeared to work much better than the iron. Heavy scabs were formed over the whole surface of the brand, and it looked as though the operation had been a success. Upon the shedding of the scabs, however, hair grew over a part of the brand, leaving only detached bare spots.

Hon. Will C. Barnes of Dorsey, New Mexico, formerly an Arizona cattleman, has used this same branding fluid under range conditions and expresses himself concerning its use as follows: "For the man who, like myself, has from 200 to 300 calves to brand at a time, I can see no way of using it successfully."

"In branding time on my ranch we usually cut out from 200 to 300 calves, put them into a lane in the corral, cutting calves into one pen and cows into another. One man grabs the calf by the right hind leg, another grabs the tail, gives a quick jerk and the calf is on his side, with one man holding his hind legs and another on his neck. No sooner does he hit the ground than a man is at him with the iron, while at the same time another man marks and castrates, and this year a third man deborned with a clipper. With two pairs of men to throw, one to run the irons, one to cut the mark, and one to deborn, making seven men in all, we have frequently branded out 90 calves in an hour and kept it up at that clip for three or four hours.

"Now, I tried the branding fluid under such conditions. I first put it into a milk pan and used a cold iron. It took a long time for the fluid to penetrate the hair, and finally one vigorous calf kicked over my pan and spilled the fluid all over the legs of the man holding him. That settled the pan system, and I got a brush and painted it on. That worked all right, but took time. But the worst feature of all was that, crowding 300 or 400 calves into a small pen that way, they smeared and rubbed the stuff all over each other, the sides of the corral and the men's clothes. "Branding time on a big ranch is a hurry-up period—everything is in a rush. To use the fluid means to take just about ten times as long as by the hot iron system."

From the foregoing it would seem that up to January, 1900, a successful branding fluid was not known in New Zealand or Australia, and that the so-called New Zealand branding fluid, the use of which has since been advocated in this country, is not to be depended on for quick, accurate work. None of the animals branded by us have been slaughtered. There is a question still as to whether the hides are injured or not. Whether they are or not, Mr. Barnes says buyers make no deduction between fire and fluid-branded hides.

Our conclusion is that the hot iron still gives most satisfactory results.

## FRUIT PRESERVATION.

### Preserving Fruit Specimens for the World's Fair.

Mr. F. W. Taylor, chief of the Department of Horticulture at the St. Louis World's Fair, has just issued a pamphlet containing information about making exhibits, etc., and giving an account of preserving specimens in glass jars for exhibition purposes:

**FORMULÆ FOR PRESERVING FRUITS IN LIQUID.**—The formulæ here given are recommended by men who have had experience in preparing fruits for exhibit purposes and who have made successful exhibits of fruits in solution. It must be kept in mind, however, that the greatest care is necessary in selecting the fruit, which should be in the best possible condition and without blemishes of any kind or injury from fungous diseases or insects.

In doing this kind of work it is necessary for even the experienced operator to experiment to a considerable extent himself before he can decide on any particular formula. Therefore, the formulæ given are simply recommended as guides, and those attempting to use them are advised to experiment for themselves, using small quantities of fruit.

After the fruit has been carefully selected place it in a receptacle in which it is to be preserved; cover with clean, clear water, and let it stand for six or seven hours, pouring off the water and rinsing the fruit thoroughly in the receptacle with a small hose in order to remove every particle of dirt from both the jar and fruit.

It is difficult to determine just how much glycerine should be used, as different fruits require different amounts, and practically the only way this can be determined is to make a practical test, which can be done by adding glycerine from time to time as it seems necessary to do so.

**USE OF GLYCERINE.**—The specific gravity of the different fruits and even different specimens of the same variety differ considerably, so that no definite advice can be given. If a fruit is firm and solid it

will not require a liquid of the same specific gravity that it would if it were overripe. It is recommended that the preserving liquid be as much lighter than the juice of the fruit as is possible without causing the fruit to crack. If the preserving liquid is heavier than the juice, the result will be that the fruit will shrivel, therefore there is danger of adding too much glycerine, and practically the only way to avoid doing so is to begin with a small amount and add more if it is found necessary to keep the fruit from cracking.

**FORMULA NO. 1 FOR FRUIT.**—To every gallon of distilled water add two ounces fresh sulphurous acid. Stir well, pour this over the fruit, covering it at least  $1\frac{1}{2}$  inch to 2 inches. To this should be added from eight to ten ounces of glycerine for peaches. For plums, six to ten ounces of glycerine, depending altogether on the amount of sugar contained in the fruit.

Set aside in a dark room for thirty days. If any change takes place, such as fermentation or discoloration, pour off the liquid, rinse the fruit and renew the preparation, prepared under the same formula as above.

If after thirty days' trial the fruit still ferments or discolors, it is useless to undertake to carry it through. The only thing to do is to prepare a fresh lot.

If it is desired to be more accurate as to the amount of glycerine actually required, ascertain the density of the juice of the fruit and add sufficient glycerine to the water to make its density equivalent to that of the juice of the fruit.

With this preparation the retention of the natural color cannot be guaranteed. To obviate this bleaching it is suggested to pour off the liquid after it has stood for five or six days; rinse the fruit in clear water and leave it stand for four or five hours, and then renew the preparation, repeating the operation until you are convinced that the color is thoroughly set and the chemical action to destroy the fruit has ceased.

**FRUIT MUST BE KEPT IN DARK PLACE.**—One of the secrets of keeping fruit under this formula is to keep it in a dark place for from thirty to forty days in a temperature ranging from 40° to 60°.

When placing it on exhibition care should be taken to keep it out of the strong sunlight. In purchasing sulphurous acid be careful that you get the fresh article, and that you get sulphurous and not sulphuric acid.

**FORMULA NO. 2 FOR FRUIT.**—To each gallon of water add six ounces potassium nitrate, one-fourth ounce formaldehyde, and enough glycerine to make the specific gravity of the liquid the same as that of the juice of the fruit.

Let the fruit stand for seven days in this preparation, provided there is no discoloration or fermentation. In case there is such, pour off the liquid and replace it with a fresh solution. Then at the expiration of seven days, if no adverse action has taken place, pour off the liquid and repeat the preparation, reducing the potassium to two ounces. Place the fruit in a dark, cool place and let it remain from thirty to sixty days. It should then be ready for exhibition, provided fermentation does not set in.

This preparation applies to all stone fruits, such as peaches, apricots, plums, prunes and nectarines, also to pears, grapes and currants, as well as hardy varieties of blackberries and mulberries.

**FORMULA NO. 3 FOR VEGETABLES.**—For the ordinary vegetable, after thoroughly cleansing and removing all dirt, cover with a solution of two ounces to two and one-half ounces of sulphurous acid to one gallon of water, changing the preparation as often as discoloration occurs. This will have to be done every few days for from one to three weeks. The same care should be taken with the selection of vegetables as with fruit.

In the case of green corn, take three ounces of sulphuric acid instead of sulphurous acid, after it has been in sulphurous acid solution for two weeks.

**FORMULA NO. 4 FOR FRUIT.**—To each gallon of water add two ounces of carbonate of soda, six ounces potassium nitrate, and glycerine according to the density of the fruit juice. Allow the fruit to remain in this solution for ten days, provided no discoloration or fermentation takes place.

Pour off, rinse fruit and replace solution with one and one-half ounce carbonate of soda, according to fruit juice, and two ounces potassium nitrate.

**FORMULA NO. 5 FOR FRUIT.**—To each gallon of water add two ounces sulphocarbonate of zinc, glycerine according to the density of the fruit juice, and six ounces potassium nitrate. Allow the fruit to remain in this solution seven days. Repeat this solution with the exception of two ounces of potassium nitrate.

**FORMULA NO. 6 FOR FRUIT.**—A solution of formaldehyde, sulphurous acid, glycerine and water gives good results in most cases. The formula as usually used is one-half ounce formaldehyde, two ounces sulphurous acid and from eight to ten ounces glycerine for peaches, six ounces glycerine for plums and twelve or more for grapes, to one gallon of water. After the fruit has been in this solution for one month or less time, should it begin to turn dark, pour off the solution, wash the fruit carefully and put on a solution of two to two and one-half ounces sulphurous acid to the gallon of water.

## FLORIST AND GARDENER.

### An Oregon Man Pelted With Rose Leaves.

Once upon a time an Oregon man, named Levinson, came down into California soliciting for patronage to a grand exposition sacred to the memory of Messrs. Lewis and Clarke, who did things for the Northwest by discovering it. This Oregon man reached Sacramento and lifted his voice in an interview in the Union in this way:

"We have adopted a pretty conceit in that we propose to make our exposition grounds one vast bowler of roses. When one talks to Californians I know he must be a little guarded about what he says concerning flowers, for, modest as Californians are, they think that they beat the world in this respect. Now, as a matter of fact, we can give you cards and spades when it comes to roses. We have a softer air, a more moist soil, and our roses develop under cloudy skies, which conditions give them a delicacy not possible in a climate like yours, with generally dry soil and atmosphere, much sun, and some wind. Again, our rose season is very much longer than yours, and we shall be able to maintain beautifully blooming gardens during the last four of the six months of our exposition season."

Naturally this claim has exalted all the thorns on the California rose and the Oregon claim is impaled through and through. The Union's writers are kept busy recording the protests. Here are a few of them:

**A FLORIST SPEAKS.**—At Florist Ebel's office, Seventh and J streets, the claim of the Oregon man produced a snort of derision. "Why, what is he talking about. Has he trouble with his brain? Don't he know that California ships roses to Oregon almost constantly?"

"Probably he does, but it is not his office to relate the fact."

"Well, it is a fact that E. W. McClelland, of San Francisco, ships roses to Seattle, Tacoma, Portland and that whole north country. If they are so well off in rose culture up there, why do they send to California for roses?"

"Well, what is the plain every day truth about the claim?"

"Why, we beat the world for roses. In some respects in valley sections we have too dry a climate for best rose development, but take the State, with its coast counties and their moist atmosphere, and no place on earth can beat us."

**THE NAVLET VIEW.**—At Navlet's floral establishment, which represents very large floral interests here and in San Francisco, the reply to the Oregon man's claim was:

"Oregon may beat the Sacramento valley because our season is rather long when we have no rainfall. But take the State as a whole—no indeed. Oregon can't compare with us in rose culture, neither as to character, richness or volume of yield. The truth is that Oregon is too wet for highest rose achievement. You know well enough that when a flower is wet about the petals or when the leaves are drenched decay sets in almost immediately. Now, rain is frequent in Oregon and cold weather, too, while with us cold is exceptional. With us it is practically roses all the year around."

**A ROSE ENTHUSIAST.**—"Why! why!" exclaimed Judge Hughes, "that man don't know what he is talking about."

Judge Hughes, of the Superior Court of this county, by the way, is the most successful amateur rose culturist we have, a man who loves rose growing next to his wife and children and whose rose garden is a beauty and a delight.

"No, sir, he don't know what he is talking about. Doubtless he is a good fellow, most Oregon fellows are. They are going to have a big fair up there, and I hope it will be a success."

"No, it is not true that our valley does not grow roses as well as the wetter clime of Oregon. No, sir, and I have been there and know Oregon well and just what I am talking about. I declare to you that nowhere I have ever been, or read of, or heard about, is the rose grown so luxuriously, abundantly or successfully as right here, in the heart of the Sacramento valley, from the middle of April to this day."

"Say what you please, there is no place to beat us in all the world for roses. Why, sir, from my garden, small as it is, in that period named I gather from 200 to 500 roses daily."

"I concede that in July and August it is a bit dry for a majority of roses; but, taking the general line of rose growth in the State, we beat the world. Yes, I mean it—the world. Nowhere can they discount us in rose growth. As to fragrance, there is very little difference in the same order of growth here and in Oregon. As to that, the flower is as fragrant in one place as in another, probably."

"Why, do you know, for my Christmas dinner last year I had from my own yard a magnificent bouquet of as choice roses as ever gave rich aroma to the air? Take it for vigor, firmness, extent of season, brilliancy of color, delicacy of texture, there is no spot in the world that can beat California in rose culture—on the coast, or right here in Sacramento."



## Agricultural Review.

### ALAMEDA.

**A BIG PACK.**—Oakland Enquirer: Work at the Emeryville cannery of the California Central Canning Co. has been under way for some time, and from present indications the pack this year will be the largest ever made here. Several hundred hands are now at work getting rid of the apricot crop, and the indications are that apricots as usual will form a larger portion of the season's total than any other fruit, peaches being a close second. The fruit this year is of unusual good quality and, while the orchardists are receiving good figures, the canneries are not suffering from any prohibitive scale of prices.

### BUTTE.

**CANNING FIGS AND OTHER FRUITS.**—Chico Record: The policy pursued by the new lessees of the Gridley cannery is encouraging to the fruit growers of this section. Messrs. Hunt Bros. of Haywards, who have the cannery under lease, and who are said to be desirous of purchasing the plant, are enlarging the scope of the work of the cannery, and will pack figs as well as plums, peaches and pears. During the past week a quantity of beans were put up.

### CONTRA COSTA.

**LARGE CROP OF HAY.**—Brentwood Enterprise: Amos Graves, who has an almond orchard near Antioch, and was present at the growers' meeting last Saturday, thinks he raised the largest crop of hay in this part of the county. He claims to have cut 250 tons on fifty acres of land.

### FRESNO.

**THE PEACH SEASON.**—Republican: The canneries of the Griffin-Skelley Co. and the California Canning Association have commenced on peaches, the principal fruit canned in Fresno. It is stated that the run on this fruit will be about as usual, which means that the pack will continue well into September. The crop is large and of good quality. The first peaches to come in are the Fosters, and after them are the several varieties of clings grown extensively in this section. The market seems to be somewhat demoralized. Earlier in the season the canneries offered \$20 a ton, but they now report that the farmers are offering them for \$10 and \$15 a ton. Thus far there has been no talk of labor troubles in the canneries. All the work is done by piece, and the girls and women make all the way from \$1.50 to \$3 and \$4 a day.

**POOR WHEAT YIELD ON WEST SIDE.**—The irrigated wheat land on the West Side fared nearly as badly as the land trusting to heaven for moisture. On account of the low stage of water in the river in the early season, it was impossible to flood the West Side land in time. Hence land on the James tract that was expected to produce 300,000 sacks will fall short of 30,000.

### GLENN.

**STOCK RAISERS' MASS MEETING.**—Willows Journal: The Glenn county stock raisers are arranging for a mass meeting to be held in Elk Creek in September. M. A. Potter, connected with the United States Bureau of Forestry, has interviewed members of the Stockmen's Defense Association in regard to conditions in the Stoney Creek reserve. Mr. Potter will return here and enquire more closely concerning the effect of grazing in the forests and personally interview those most interested in the matter.

### KERN.

**GOOD BARLEY YIELD.**—San Luis Obispo Tribune: L. B. Kendall, of Poso, writes that he has finished harvesting his crop and O. Donovan & Bros. are partly through. Grain is turning out exceeding well there. Beardless barley of L. B. Kendall's is going about thirty-five sacks per acre and common barley of Donovan's is turning out about twenty-five sacks per acre.

### KINGS.

**BARLEY AND WHEAT YIELDS.**—Hanford Journal: The large harvesters are now at work on the Barbour Reclamation district, on Tulare lake bottom, harvesting the crop of wheat, some of which we understand is going as high as twenty-five sacks to the acre; also the barley and other crops in the Blakeley district are being harvested, and it is reported that the Mack Lovelace crop of barley is yielding thirty-five sacks to the acre.

**BLACKBIRDS EAT GRASSHOPPERS.**—Hanford Sentinel: There was recently a swarm of grasshoppers noticed in the country a few miles south of Hanford, and one farmer stated that he feared that the pests would prevent a harvest of alfalfa seed. Soon after the hoppers appeared there came thousands of black-

birds and they are said to be fattening upon the grasshoppers.

### MADERA.

**DESTROYING THE GRASSHOPPERS.**—Times: Bert Ricketts, manager of the Sayre ranch, has succeeded in clearing that property of grasshoppers (locusts) by the use of 30-foot troughs of crude petroleum. The troughs were something over 2 feet wide and contained a small quantity of oil. As they were drawn across the field the hoppers jumped into the oil and were instantly killed. Millions of the pests were destroyed in a few days.

### MONTEREY.

**PROLIFIC BERRIES.**—Salinas Index: Wallace Ollason has picked 285 chests of Loganberries from three acres on the King place, just outside the city limits on the Monterey road, and is still picking the luscious fruit.

### NAPA.

**SOME CHERRIES.**—Herald: In the Napa fruit cannery there is stored \$50,000 worth of canned cherries, which is equivalent to 1,000,000 quart cans of this fruit.

### RIVERSIDE.

**HEAVY APRICOT CROP.**—Hemet News: The big apricot crop is a surprise. In the same length of time the association never handled so much fruit before. Notwithstanding the new cannery and dryer in San Jacinto, and the numerous other dryers on the Hemet tract, Mesa and in Valley Vista, the Hemet yards can get more fruit than the association is able to handle. The fruit is larger than last year and the efficiency of the dryer is 15% better.

**BIG YIELD OF WHEAT AND BARLEY.**—H. K. Small says his sons report wheat yielding 12 sacks to the acre. Some pure wheat land is producing up to 15 sacks to the acre. It is reported Mr. Chase expects 20 sacks to the acre on his best irrigated wheat fields in Ethanac. Full sacks of good wheat weigh about 140 pounds each, and some weigh up to 150 pounds or more. Most of the barley weighs 110 to 120 pounds to the sack. Big fields of barley are yielding 12 to 25 sacks to the acre.

### SAN BERNARDINO.

**GOOD PRICES FOR VALENCIAS.**—Highland Messenger: A short time ago T. W. Frye shipped a part of a car of Valencias, choice and fancy, to New York. He did not have enough fruit to fill a car and so took only a part of it, shipping 336 boxes. A few days ago he received a telegram stating that the Valencias grossed \$3210. This means that the fruit brought \$3.60 a box, an exceptionally high price. Another extraordinary good sale was reported by A. G. Sterns, Highland agent for the Citrus Union. Two hundred and twenty-one boxes of Valencias grown in the orchards of John Browning and J. Hartzell brought \$795.60 gross, or \$3.60 per box. These were orchard run, culls out.

**PRICE OF AN ORANGE GROVE.**—Redlands Facts: John W. Chambers has sold an orange grove of seven and one-half acres to Messrs. Opp of Redlands for \$16,000. The trees are full bearing navels and the property is one of the finest in this section, the improvements being modern in all respects. The Opp brothers are from Nebraska.

### SAN DIEGO.

**FIRST CORN HARVEST.**—Imperial Press: H. J. Parker, west of Imperial, is the first man in the valley to have a crop of corn ready for harvest. It is white Egyptian, and is a volunteer growth from last year's crop, the yield being fully as good as that of last year. While Mr. Parker is harvesting his crop, other farmers are still planting, and the acreage now in corn is thought to exceed 20,000, making a total crop of grain in the valley for the season of about 50,000 acres.

**RECORD BREAKING GRAIN CROPS.**—Union: The Fallbrook section is getting a record-breaking grain crop this year, and prices are evidently going to be very satisfactory to the producers. Some Fallbrook grain has already been sold for \$1.40 per hundred. This, however, was for the Los Angeles market, and ranchers do not all expect to secure this figure. All apiarists will have honey to sell this season, but it is now certain that the crop as a whole will be a small one.

### SAN JOAQUIN.

**APRICOTS AND PEACHES.**—Stockton Record: It is estimated that fully fifty cars of peaches will be shipped from Lodi and Acampo this season. The prices paid for apricots for canning range from \$30 to \$40 and fruit for drying is selling for \$25 a ton.

### SANTA CLARA.

**APRICOTS THREE TO THE POUND.**—San Jose Herald: Secretary McMahon is busily engaged in renewing the exhibit of fruit in the rooms of the Chamber of Commerce. Apricots are being put into

solution now. Many fine cherries were preserved during the cherry crop season just ended. "The apricots now being preserved are beyond doubt the finest we have ever had," said Secretary McMahon. "We have many which run three to the pound, and all fruit growers know that these are of unusual size, especially when there are so many of them."

**PRICES FOR FRESH PRUNES.**—Los Gatos News: Prunes are beginning to color and show up a little better, but we still believe that 75% of last year's crop of the State can be easily set as a maximum. A continuation of this weather will mean large prunes. In the mountains driers are paying \$17.50 for green prunes. Down the valley more money is demanded. The Farmers' Club of San Jose takes an optimistic view of the prune situation, and seems to think that a 3-cent basis should rule, and that green fruit should be held at \$30 per ton for the four sizes and \$35 for the larger. A 3-cent basis for prunes, which ruled early in the season, would mean about \$26 for four-size prunes, as there is 5% off of the 3-cent price. The later sales of 2-cent basis, less 5%, would mean about \$22.50 for four-size green prunes, provided they dry not to exceed two and a half to one.

### SANTA CRUZ.

**HEAVY BEET YIELD.**—Watsonville Pajaronian: In and around the big mill at Spreckels, and in the Blanco and Moro Cojo country, the beet crops never looked better than they do at present. The same can be said of the other crops. In the Mud Flat section of the Pajaro valley there is a good stand of beets on the Moreland ranch. The rest of this section is devoted to grain, onions, spuds and beans, and all the crops look well. On the John E. Trafton place there is a stand of wheat which will prove a record breaker when the harvest takes place.

**TREE PROPPING.**—Contractor A. Hays and a crew of eight men have placed 136,000 Hoyt tree supports on trees in this valley since the middle of January. The work has been done under various contracts, the largest of which was for 32,000 supports for Silliman Bros., and the next—31,300—for K. F. Redman. The figure 136,000 as a total for Mr. Hays' contract represents only about one-half the number of tree supports placed in Pajaro valley this year, as many more having been placed in small lots by orchard owners themselves.

### SACRAMENTO.

**HOP GROWERS TO FORM POOL.**—Bee: A. A. Merkeley, the well-known hop grower, says a circular will soon be issued by the hop growers of this locality calling for a convention of State hop growers for the purpose of organizing a pool similar to that in existence in Oregon. It is intended to co-operate with the Oregon growers in the interests of the hop growers on the Pacific coast. Mr. Merkeley states there is no intention to "bull" the market beyond a legitimate figure, the desire of the growers here being to avail themselves of the natural advantages of the situation.

### SOLANO.

**FRUIT SHIPMENTS LIVELY.**—Republican: Shipments of fresh fruit from Suisun to Eastern markets now amount to from eight to ten carloads per day, the varieties being plums, peaches and pears. Pears are commanding an exceptionally good price, ranging from \$1 to \$1.15 per box. This is particularly gratifying to the growers, a great majority of whom will realize more money from their fruit this year than last.

### SONOMA.

**GRAPE OUTLOOK GOOD.**—Santa Rosa Press-Democrat: Grape growers are very hopeful as to the size of the coming grape crop. The weather is said to be good for the vines and the indications everywhere in the county are promising. As to the probable prices there is considerable speculation.

### STANISLAUS.

**GOOD GRAIN YIELD.**—Oakdale Leader: Albert Kimberling and Jacob Myers, Jr., of the Burwood neighborhood, report that the majority of the farmers in that locality are through with harvesting their grain; that while some crops run from ten to thirteen sacks per acre, others were not so large. They place the aver-

age yield at eight sacks, a fairly good yield for a dry season.

### SUTTER.

**ALMOND GROWERS' MEETING.**—Yuba City Farmer: The regular meeting of the Sutter Almond Growers' Association was held here last Monday and arrangements were made to advertise for bids for the almond crop for this season, pooled by the members of the organization. The estimated pool will be from 125 to 150 tons. The prominent wholesale buyers will be notified as to the number of tons of each variety, and will be solicited to put in a bid for same, said bids to be opened on Monday, August 3rd, at which time the almonds will be sold to the highest and best bidder, if same is satisfactory.

**GOOD BARLEY CROP.**—Independent: Reports from residents of No. 70 district and from near Meridian are that the barley in that section is turning out well and yielding from twenty-five to thirty sacks to the acre. The grain is plump and very clean and will demand the highest market price.

**BIG RANGE LEASED.**—John Markley and his associates have rented 6000 acres of their tule land to Messrs. Amistory & Camau, two extensive sheep raisers of Oregon, who intend to pasture about 30,000 head of sheep on this range during the summer and fall. The price paid was 9 cents per acre.

**BEAN ACREAGE.**—Marysville Democrat: Sutter county is one of the principal bean-growing sections of the State. On a tract of land recently purchased by John Markley and associates fully 1000 acres will be planted to beans this season. This tract has been leased to twenty or more residents of that section, all of whom are now busily engaged in putting in this year's crop. No. 70 district will contribute its usual acreage of beans, which will make the total acreage of the county foot up to 1200 or 1500 acres.

### TULARE.

**GREAT WHEAT FIELDS.**—Hanford Sentinel: H. G. Lacey made a tour of the wheat belt of Tulare county by automobile, covering about 175 miles a day. He traveled as far north as Madera and visited one wheat field containing 11,500 acres of wheat in one body. This field, while in one body, is the property of four different interests. There are four steam harvesters operating there now, and the grain is turning out about five sacks to the acre. It is all milling wheat, but not as plump as some grown in the irrigated country.

**TEN SACKS OF WHEAT TO THE ACRE.**—Times: M. J. Wells is now harvesting his 500-acre crop of white wheat at the mouth of Antelope valley with a combined harvester, and his returns daily amount to from 330 to 340 sacks of grain. The crop is yielding ten sacks per acre. The weather has been a little cool for good harvest work, as the wheat does not thresh as well as it would if the weather was warmer.

**ADVISE ROTATING CROPS.**—Orosi Offer: Two farmers, discussing the question of grain growing a few evenings since, coincided in the opinion that continuous growing of wheat on land in this vicinity has impoverished the soil to such an extent that six and eight sacks to the acre can now be considered a big crop and above the average. They also agreed that this worn-out wheat land would produce good crops of barley and cited a number of instances to prove the fact. One of them spoke from experience had this season.

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam



A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges 1-10, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN, Modesto, California.



## THE HOME CIRCLE.

## Turn About.

The horse and the dog had tamed a man and fastened him to a fence. Said the horse to the dog, "For the life of me I don't see a bit of sense in letting him have the thumbs that grow at the sides of his hands, do you?" And the dog looked solemn and shook his head and said, "I'm a goat if I do."

The poor man groaned and tried to get loose, and sadly he begged them: "Stay! You will rob me of things for which I have use by cutting my thumbs away! You will spoil my looks, you will cause me pain. Ah, why should you treat me so?" As I am, God made me, and He knows best. Oh, masters, pray let me go!"

The dog laughed out, and the horse replied: "Oh, the cutting won't hurt! You see, We'll have a hot iron to clap right on, as you did in your docking of me. God gave you your thumbs and all, but still the Creator, you know, may fail To do the artistic thing, as he did in furnishing me with a tail!"

So they bound the man and cut off his thumbs, and were deaf to his pitiful cries, And they seared the stumps, and they viewed their work through happy and dazzled eyes. "How trim he appears," the horse exclaimed, "since his awkward thumbs are gone!" For the life of me I cannot see why the Lord ever put them on!"

"Still, it seems to me," the dog replied, "that there's something else to do; His ears look rather too long to me, and how do they look to you?" The man cried out, "Oh, spare my ears! God fashioned them as you see, And if you apply your knife to them you'll surely disfigure me!"

"But you didn't disfigure me, you know," the dog derisively said, "When you bound me fast and trimmed my ears down close to the top of my head!" So they let him moan and they let him groan while they cropped his ears away, And they praised his looks when they let him up, and proud indeed were they.

But that was years and years ago, in an unenlightened age. Such things are ended now, you know—we have reached a higher stage. The ears and thumbs God gave to man are his to keep and wear, And the cruel horse and dog look on and never appear to care.

—Our Dumb Animals.

## Tarts.

Tarts was the absurd name of the superfluous boy. He had another name—which would hardly be worth mentioning if it were not to reassure those who doubted the fact. The other name was Abraham Lincoln Shrouds. Tarts was a detached protoplasm. In other words, he was an atom which had become separated from its kind.

The way it happened is a common way—out West. His father and mother started from the East to go West. That is, they started from Iowa in a covered wagon to move into North Dakota. They had no fixed destination, but that made the undertaking all the more interesting. Indeed the hegira seemed almost like an heroic adventure to them.

Tart's mother and father had never stayed fixed. A few years before they had come up from Missouri—this time, also in a covered wagon—and had settled on some picturesque bluffs on the Big Muddy. They had a theory that they might raise sweet potatoes and peanuts in that sandy soil.

But for some reason the peanuts would not properly mature, and the potatoes had a greenish tinge and were as watery as summer squash.

Therefore these products did not market well, and the Shroudses often went hungry—not frantically hungry, but just common hungry.

Mrs. Shrouds had the imagination of

the family. Her father, who lived in the Ozark Mountains, had once written a poem on liberty. It was she who proposed another move. She said they might go to North Dakota. She didn't suggest anything more definite than that, but she had heard that that part of the land was a fertile one.

So the raw-boned horses were hitched to the wagon and the small-cooking stove was set in; there were rolls of blankets for use at night, and there was a scanty supply of provisions. There was no money. But then, the Shroudses did not attach too much importance to trifles.

All went well enough till Pa Shrouds fell sick with the chills. Not to go into mournful particulars, he died, and some charitable persons saw him buried in a little village cemetery. Some one with sense suggested that Mrs. Shrouds should have the weary horses shot, and stay in town to find work. It was hinted that she could easily support herself and Tarts. She did not seem to think so, for the morning after this proposition the covered wagon was missing. Mrs. Shrouds had moved on with Tarts—only he wasn't called Tarts then.

In course of time North Dakota was reached. Mrs. Shrouds had the sense of an Arab, and could find paths anywhere. But, like another wanderer, she looked only across the borderland of her long-sought place and then closed her eyes on earthly things. It was curious, and might be worth a story in itself; only it is necessary to go on with Tarts, because he was the one who really lived and did things.

Briefly, Mrs. Shrouds went out this way: One of the tired horses lay down and refused to get up. Mrs. Shrouds sat by his head, looking at him, for a long, long time. The month was October, and the nights were cold; so Tarts, being chilled to the bone, spoke to her at length.

"If them horses can't go," said he, "s'pose we walk to where there's something to build a fire with. If we go to that there windbreak we'll find some twigs."

Mrs. Shrouds made no reply. She looked up and smiled in a silly way. Tarts was moved to help her into the wagon and cover her up. He lay down beside her and they slept. Neither of them had anything to eat that day.

The next morning when Tarts awoke to the knowledge of things, he sent out a great cry—such a cry as those give who see the world grow black. For he was alone in the world, and up and down all the ways of the earth there was none to call him brother.

There are Samaritans almost everywhere, and one presently came along and saw Tarts. She was on horseback and sat on her saddle like a man. A white sombrero crowned her pretty red hair. She rode a gray mare, and she apparently enjoyed being alive. She had not counted on meeting anything horrible, but when she did she met it like a soldier. She put Tarts behind her on the mare, rode back to town, sent the coroner to see to the— to the Horrible—and took Tarts to her home.

That was the hour in which he was rechristened. The bread was rising in the pans and there wasn't a slice to eat in the house. Neither was there anything else except tarts. There was a whole plateful of these, filled with glowing currant jelly. The Samaritan, whose name was Maribel Clark, made some coffee for her guest and set the tarts before him. There were twelve of them. He ate them all. Maribel Clark sat and watched him do it.

"What is your name?" she asked, when he had finished.

"Abraham Lincoln Shrouds," he answered.

Maribel Clark shuddered. "It sounds like death," she thought to herself. Aloud she said pleasantly, "But that is so long! I think I shall call you Tarts. Tarts is quite jolly. And now I think you'd better go to bed."

So she put him in the whitest bed he had ever seen, and when he woke up it was to-morrow, and the many places which had known poor Maria Shrouds would know her no more forever.

For several days Tarts lay around the stove with the cat. The cat had

rubbed up against him the moment he came into the house, and soon learned to lie curled in his arms on the settle. When the tears fell from Tarts' eyes on her gray fur, she patiently licked the place into smoothness again, and indicated her understanding of the situation by curling up closer than ever in Tarts' arms.

"The cat and Tarts have eyes of the same color," Maribel Clark observed, on the third evening to her husband. Her husband was a very young man to be married and own a hundred and sixty acres of wheat land—not to mention two cows, four horses and a number of pigs—but people have to begin young out West, because there is so much to do, and one lifetime is such a bit of a time in which to do it.

"Yes," he said, answering his wife, "they are both as yellow as glass."

Oddly enough, considering the fact of the yellow eyes, Tarts' hair was almost coal-black, and his skin was very dark. His nose turned up, his heavy eyebrows met in the middle and curved far over his eyes toward his cheeks. He was a funny looking boy; indeed, it seemed, as one looked at him, as if he had once been handsome, but had somehow become a caricature of himself.

"I suppose," said Mrs. Clark, under her breath, "that we ought to be finding some place for him to stay."

"There's no hurry," said Jack Clark, rather gruffly, as he turned up the light and began to read. Mrs. Clark smiled to herself and said nothing more.

The Clarks had both been "raised" up at Jamestown, and had been to the high school together, and married as soon as they got their diplomas—at least, they married within a month of commencement day—and had taken up life together in an orthodox way. It was a mile and a half from them to anybody, and there were only the animals for company.

The trees were just set out and no good as companions; the creek was half a mile away, and so there was hardly a thing to break the noisy silence of those wind-swept steppes. All of which went to make up the second reason why Jack Clark said, "There's no hurry," when his wife spoke about sending Tarts away. The first reason—but any one who looked at the amiable young faces of the Clarks would have no trouble in guessing why the boy who had met the Horrible alone was not turned away from their fire-side.

In a week Tarts was properly clothed, and the signs of rough living had begun to leave him. Then the Clarks sent him two miles away to school. He walked there every morning, with his dinner done up in a little basket, and he came home in the early falling of the twilight and helped Maribel shut in the chickens and look after the kindling and set the table for supper.

At first his hands were awkward, as if he had not been in the habit of using them. But after a time he could make excavations in the apples and fill them with sugar and cinnamon, and take the jackets off boiled potatoes and hash meat for mince pies. Maribel told him stories, and laughed a good deal while she talked with him. It did seem for a while as if she could never get him to echo that laugh, but just when she was despairing she heard him laughing at the cat, who had just jumped through a hole in the back of the wicker rocking chair and landed in the work basket.

She was so startled—Mrs. Clark, not the cat—at hearing this natural outward sound of merriment that she dropped a squash on the floor, where it broke conveniently in half, thus saving her the trouble of using the axe on it. "He actually laughed," she cried to her husband when he came in. Tarts was out getting the kindling.

"Did he, indeed?" responded Jack. "One of those jokes I made last week must have reached him."

It is no more than fair to the cat to admit that she had her share in educating Tarts, although he was twelve and over, and she was only going on four. It was the habit of the cat to arise when either the mistress or the master of the house entered, after be-

ing away for a time, and rub up against them by way of greeting. Tarts had not been used to such amenities, but as the cat persistently lived up to her code of etiquette, it began to dawn on Tarts that something in the way of courtesy was due to the fellow creatures who are associated with one.

This was how it came about that, one evening, as Maribel Clark sat before the fire, Tarts came and stood beside her and laid his arm on the back of her chair. Mrs. Clark moved one arm slowly and slid it about him in the most matter-of-fact way possible and, getting up presently, kissed him just as if she were in the habit of doing it. That completed the taming of Tarts, so to speak.

After that he was as much a part of the family as the cat, which is saying no small thing. But he was also paid the respect which is due to a boy—and that is a yet bigger thing. Mrs. Clark had a way of remarking:

"Naturally a person like you would not do such a thing?" And then Tarts, who had been thinking of doing that very thing, would put it away out of his thought and forget that he could ever have dreamed of it.

Tarts knew a good many things. He knew, for example, how snakes shuffle off their dry old skins in proper season and come out in gleaming coats, bright as jewels, and it sometimes seemed to him, when he thought of it, that he had been a dusty, ragged-looking snake when he came to that house, and that little by little he was dropping his time-worn coat and coming out in a new skin. This simile might not have seemed pleasant to some persons, but ten to one those persons would not be so well acquainted with snakes as Tarts was.

He knew that snakes were not so black as they were painted, and that when the proper person approached them they could be lifted and petted. Tarts was one of those proper persons, for reasons which no man can know. Only it comes to some who live much among wild things to know certain foolish secrets, yet not to know why they know them.

Tarts had, indeed, forms of wisdom. Perhaps it would be more correct to say that he had instincts. It happened in the course of time that this instinct-wisdom served the Clarks well.

It was in the year 1896; the date has not been mentioned before, because this started out to be only a brief memoir of an unknown person; but from here on it is history, and so dates count. In November of 1896, a fortnight before Thanksgiving day—though the governor already had his proclamation out—something curious happened. The Clarks did not notice it. But the cat and Tarts were uncomfortable.

They both sniffed the air and they took deep breaths. They acted as if something was the matter with their lungs. They both kept running to the window. The cat sat on the sill, and Tarts stood beside her. It was Saturday, so Tarts had no school. About eleven o'clock they both got so restless that they walked the floor. Just then Mr. Clark came in from the barn.

"It's getting very cold," he said, "and there's something curious about the feel of the air."

Maribel Clark was cutting out a green flannel dress for Sundays, with the aid of a patented pattern, and did not pay any attention to the remark. Besides, her mouth was full of pins, and she could not have answered without taking them all out. Jack Clark walked to the window, and Tarts and the cat went, too, as they had gone many times before that morning.

"Look, look!" cried Jack, sharply.

A gray curtain, reaching from heaven to earth—yes, hanging straight from the opaque heavens to the brown steppes—moved majestically forward, moving as fast as a horse could run.

Maribel saw it, to. She will never forget it—no one who saw it will ever forget it. Many next day could not remember, because they were beyond mortal recollections. But those who saw and lived will never forget.

"The cattle are in the shed," cried



Jack. "I must get them into the barn!"

"No, no! No, no!" cried Maribel, fiercely, and she took hold of his arm. But he was a humane man, and a frugal one, and he went out to save his cattle for their own sakes and his.

A minute later the gray curtain reached the house and all the world was as opaque as lead, as cold as the chambers of the unlighted sea, and filled with a great noise.

Now the barn was two hundred feet from the house. How can a man find his way through opacity, through cold like the floors of the ocean, through noises that call to him everywhere and lead him nowhere?

North Dakota has its tales and traditions—not of the sort the early Eastern colonies had, or of the sort the dwellers upon the Ohio had, or yet of the sort the settlers of Florida or Texas had. But they are terrible traditions, just the same, and Maribel Clark knew all about them. She knew what a blizzard meant. So she stood for a moment frozen with despair, and all the simple story of her life's romance went before her, as things will in fatal moments, and she wondered how best to fight for the man out there in that storm of ice.

But it was Tarts who thought—or who knew. It seems almost an exaggeration to say that Tarts thought. He had a warm coat, and a cap which came down over his ears, and he put them on. He tied one of Maribel's old shawls about his neck and the lower part of his face. He put some old blankets about his feet and tied them there with strings, and he did it all so fast that Maribel watched him in amazement. She had not known he he could move like that.

Then he took the clothesline from the cupboard and tied it about his waist, and other ropes used for other things, and straps, such as he could find, and he gave them all to her. Then he took from its place a shrill whistle, which Maribel kept to summon her husband from the field, and which Tarts had experimented with for fun. He put this in his pocket.

Now the doorknob of the outside kitchen door had been loose for days, and Jack Clark had remarked at least twice in each twenty-four hours that he ought to mend it. Tarts jerked the knob from its place, undid the rope about his waist, inserted it through the hole, opened the door to draw the end through, letting in the whirlwind for a moment, then retied the rope and stood ready.

"When I jerk the rope," said he, "you pull!"

"Yes," said Maribel Clark. She stood at orders. The door opened again—the gray whirlwind surged in. Then Tarts was gone, and there was only the cat, with dilated eyes, under the stove, and Maribel, holding the rope and letting it out as the boy went toward the barn. In spite of the heavy noise she heard the shrill call of the whistle—heard it again and again persistently, frantically, making its staccato heard above the rest.

The clothesline was a long one, but it was not long enough, and when she spliced it she had to open the door to make the knot on the other side. But she had wrapped herself up at the beginning of her work, and put on sheepskin gloves and tied her head so that only her eyes were visible. Yet, even so, the cold so reached through clothes and flesh, so sank in to the bone and into the marrow of the bone, that it seemed as if she could never close the door. Had the wind been blowing against it, she never could have closed it, probably. But the wind was at the side of the house and struck the door obliquely.

How long a time passed? How long it was that the whistle shrilled, that the rope was pulled steadily outward? She did not know. By and by she no longer heard the whistle. By and by no more demand was made upon the rope. Still there was no signal for her to draw it in. Still she waited, and the time passed—passed like a monotonous procession from which she could never escape.

Then at length—after the terror of

that invisible procession of minutes had come to seem unbearable—there came a tug at the rope. Think, out of the cold chambers of death, there came a human sign!

So Maribel stood up to her task, as a man stands to his gun when the heads of the enemy show above the stronghold, and pulled—as became her, being a true woman and no faint heart.

She had to open the door twice for knots in the rope, and both times the storm came in till the house was like a grave, but she pulled and pulled, and at last there was an end to it, and at that end was a boy, tied fast—and of course she had to open the door to him, for he could not come through a knob hole any more than a knot of rope—and holding fast to him was a man, who had come out of death into life.

The rest doesn't especially matter. Any one can guess what happened next—how they all struggled back together to sanity and warmth and hope—although they had the blizzard on them for hours. It was two weeks, in fact, before the roads were opened to town or the trains got up from the junction on the Great Northern. When they did, they came between walls of snow which were twelve feet high in some places.

Then Dakota added to her traditions, and around firesides tales were told which made women weep and men grow stern. Some of them are much too sad for the telling, and some make the heart beat because they concern heroes—like Tarts.

After that, even the cat must have known that Tarts would stay where he was as long as he had need to do so. And that was the beginning of the evolution of the protoplasm, which fate—blindly or intelligently, who shall say—had detached from its kind.—Elia W. Peattie in Youth's Companion.

#### The Care of the Eyes.

Don't work longer than two hours without closing the eyes and resting them for five minutes.

Don't use the eyes when they are tired or weak from illness.

Don't sleep opposite a window, or where a strong light will strike the eyes on awakening.

Don't have colored shades on the lamps. Use white or ground glass. If you must have a colored shade, let it be green.

Don't read in a reclining attitude or in bed.

Don't use the eyes before breakfast. Don't sit facing a strong light. If possible, let the light fall on the work or book from over the left shoulder.

Don't neglect to bathe the eyes occasionally in salt water. A weak solution is best.

Don't bathe eyes that are inflamed with cold water. Use warm water.

Don't open the eyes under water when bathing, especially in salt water.

Don't fail to wash the eyes every night before retiring, so as to remove any dust that may have gathered on the lids during the day.

Don't allow a cold, raw wind to strike the eyes.

Don't look too steadily from a car windows at objects that are constantly flying past you.

Don't wear a veil with black dots, or one woven with double threads.

Don't try to get a cinder out of your eye by rubbing. Dip a tiny camel's-hair brush in oil and draw across the eyeball.

Don't rub the eyes by downward motion, but toward the nose, which rounds the ball and preserves its normal shape.

Don't fail to consult an oculist if you find that your eyesight is growing dim, or hesitate to wear glasses if you need them.

Don't give up in despair when told that a cataract is forming. In these days of advanced surgery it can be removed with little or no danger to the vision.

Teacher—If I had two apples and gave each of you half a one, how many would you have? Pupil—I'd have a whole one; I can lick the other feller.

#### Hints to Housekeepers.

Try using soapy water for making starch. It is said that the linen will be given a gloss by this means, and that the irons will not stick.

Brush the bottom crust of pie with white of egg before putting in the fruit, to prevent the juices being absorbed and the crust soggy.

Mirrors are never so well cleaned and polished as when wet newspapers are used for the first process and soft, dry, crumpled papers for the last. If the mirrors are very much soiled, with flyspecks, for instance, put ammonia in the water. Soap should not be used at all.

If your wedding is to be in the country and your house will not hold the friends and neighbors you wish to invite, have the ceremony performed on the porch. Twine the columns with vines and flowers, and place a large light over where you are to stand. String Chinese lanterns around the lawn before the porch. If most of your guests come long distances, do not have a large supper, but serve vanilla ice cream, bride cake, chocolate cake and coffee.

Don't let sticky flypaper lie carelessly on chairs or tables, ready to attach itself to garments or to melt and run off at the edges. Simply lying the sheet upon a newspaper is not sufficient. See that the newspaper is at least 5 inches longer than the sheet, then beginning at one end roll the newspaper (not fold) fully up to the margin of the sheet and pin it there. Roll the opposite end in a similar manner, then the sides, pinning once all together at each corner. Your sheet of flypaper will now be encased in a shallow crate or dish of newspaper, and can be hung over chandelier or upon the tops of pictures, where it will be out of range of human beings and more in range of nuisances it is designed to attract.

#### Domestic Hints.

**STUFFED TOMATOES.**—Cut a thin slice from the stem end of the tomatoes. Remove the seeds and pulp and mix the pulp with an equal amount of buttered cracker crumbs. Season with salt, pepper and tabasco sauce, or with sugar, if preferred. Place the tomatoes in a granite pan and bake until the crumbs are brown. Take them up with a broad knife and serve hot.

**COLD PEACH PUDDING.**—Boil one cupful of rice in water, to which add a teaspoonful of salt and juice of one lemon; when tender press rice through a colander. To this puree add half cupful sugar, one pint fresh peach pulp, half teaspoonful almond extract, one teaspoonful butter, one-half cupful cream; place on stove to become hot; then pack into a buttered mould and set on ice to chill. Serve with whipped cream.

**FILLETS OF HARE LARDED WITH POIVRADE SAUCE.**—If the hares used for this purpose are full grown, three will suffice; they must be filleted and each fillet split into halves; these should be trimmed and larded and placed in a curve at the bottom of a sautapan lined with thin layers of fat bacon. Moisten with some mirepoix, place a round of buttered paper upon the fillets and set them in the oven to simmer for twenty minutes, frequently basting them with their own liquor. When they are nearly done, remove the paper; dry the larding and glaze it; drain the fillets upon a napkin, trim and dish them up in a close circle, pour some Poivrade tomato or Italian sauce under them, and serve. These fillets may also be garnished in the same way as directed for fillets of rabbits.

**PIG'S HEAD.**—Have a well-scalded and clean pig's head, singe and bone without destroying the skin, beginning from underneath; fill it with layers of fine pork forcemeat, placing on each one some lardons of fat pork, pistachios, truffles and quenelle forcemeat, into which chopped-up ham has been mixed, and then rolled in the same sized pieces as the lardons. When the head is filled sew it up and reshape it as before, then wrap it in a cloth and cook in stock for

four hours; and return it to the cloth to give it the shape of the head; unwrap once more, pare well, glaze over the meat glaze, and dress on a low socle; put in glass eyes and place natural fangs in the mouth; decorate the head with tongue, hard-boiled egg white and pistachios; surround with chopped jelly and a border of croutons.

## GLENN RANCH,

Glenn County, :: :: California.

## FOR SALE

### In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## LAND! LAND!

**\$11,500.** Good general farm, 83 acres, 2 1/2 miles from Stanford University. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

**\$30,000.** A fine apple orchard near Watsonville, 274 acres; 40 acres in apples, 40 acres in apricots; with best of improvements, large house, barn, etc. Net receipts \$5000 annually, and increasing. This property assures a continuous income; it is good value. Write for particulars.

**\$7750.** Profitable hill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and heifers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

I have listed many small fruit ranches in the Santa Clara valley, and town lots in Palo Alto. Write for what you require.

JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

**BUY** alfalfa land graded ready to plant; water right deeded with land guaranteed sufficient for irrigation purposes; near town creameries and R. R.; will sell for a limited time at \$15 per acre; half cash, balance on time if desired. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

## CHEAP RATES

California, Washington, Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO.,

G 26 Montgomery St., San Francisco.

G 325 Dearborn St., Chicago.

G 338 So. Broadway, Los Angeles.

## TANKS!

**TWENTY** 1000-GALLON WINE TANKS, double head, in first-class condition, for sale at \$10.00 apiece f. o. b. schooner or S. P. cars. Tanks being sold on account of dying out of vines.

**PUTNAM BROS.,**

Warm Springs, Alameda Co., Cal.

## SAFE INVESTMENT.

Bonds Secured by Real Estate, Certified by Trust Company; pays 5 per cent interest, payable every 6 months.

Address for information,

I. J. TRUMAN, Call Building, San Francisco.

**HENRY B. LISTER,**

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. Room 14, fourth floor, Mills Building, San Francisco. Telephone Bush 348.

Telephone Main 199.

**Blake, Moffitt & Towne.**

**DEALERS IN PAPER,**

Nos. 55-57-59-61 First St., San Francisco, Cal.

BLAKE, MOFFITT & TOWNE, Los Angeles.

BLAKE, McFALL & CO., Portland, Or.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, July 29, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	76 1/2 @ 75 1/2	76 1/2 @ 75 1/2
Thursday.....	75 1/2 @ 76 1/2	75 1/2 @ 76 1/2
Friday.....	75 1/2 @ 76 1/2	76 @ 76 1/2
Saturday.....	75 1/2 @ 77 1/2	76 1/2 @ 77 1/2
Monday.....	77 1/2 @ 78 1/2	77 1/2 @ 78 1/2
Tuesday.....	78 1/2 @ 77 1/2	79 @ 77 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	50 1/2 @ 49 1/2	49 1/2 @ 48 1/2
Thursday.....	50 @ 51	49 1/2 @ 50 1/2
Friday.....	50 1/2 @ 51 1/2	49 1/2 @ 50 1/2
Saturday.....	50 1/2 @ 52 1/2	50 1/2 @ 52 1/2
Monday.....	52 1/2 @ 53 1/2	52 1/2 @ 53 1/2
Tuesday.....	53 1/2 @ 52 1/2	53 1/2 @ 52 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 42 1/2 @ 1 43 1/2	— @ —
Friday.....	1 43 1/2 @ 1 43 1/2	1 45 1/2 @ —
Saturday.....	1 43 1/2 @ 1 44 1/2	— @ —
Monday.....	1 45 @ 1 47	— @ —
Tuesday.....	1 45 1/2 @ 1 46 1/2	— @ —
Wednesday.....	1 46 1/2 @ 1 48 1/2	— @ —

### WHEAT.

The local market continues to present a strong tone, with further improvement in quotable values since last review. Not much wheat is coming forward from any quarter, and prospects are that arrivals will aggregate light throughout the season. Both millers and exporters are experiencing trouble in securing wheat for immediate needs, to say nothing of prospective requirements. As is very often the case, but more especially so this season, relatively higher prices are being paid in the interior than are warranted as wholesale quotations in this center, despite the fact that San Francisco quotations are on a higher plane than those of Chicago or New York, which is unusual, and what is still more remarkable, wheat is commanding in San Francisco about as high figures as the California product is quoted in Liverpool, leaving practically nothing for carrying charges. There have been in previous seasons somewhat similar experiences for brief periods, but under decidedly abnormal conditions. During the Nevada Bank deal, engineered by Dresbach, there was a period when California wheat was selling in large quantities in Europe for much less money than was being paid at same time in the local market. The charter market for grain ships is decidedly unsettled and weak. A French bark has been rechartered at 12s 9d for one-fourth wheat and balance barley cargo, but the wheat is being carried for nothing, as shown by the following explanation from the Commercial News: "The re-charter of the French bark Alice shows that new conditions in this market have arisen. By the terms of the charter party, one-fourth of the cargo must be wheat; as she carries 3200 tons, 800 tons of wheat are required. At present wheat f. o. b. here is worth as much as wheat c. f. i. is worth at point of discharge in U. K. Therefore, in considering the re-charter, no freight could be figured on the wheat, and it was looked upon as ballast. The going rate for barley is 16s 9d U. K., the Siam, barley only, having just been re-chartered to arrive at that figure. The wheat space in the Alice being deducted, the balance of the space has been let at the rate of 16s 9d, which actually reduces the figure for the whole to 12s 7d, or 2d less than the rate proffered and accepted. There is a clause in the charter party giving owners the right to carry ore, or other dead weight cargo, for stiffening, and if rock ballast had been accepted in this case, in lieu of wheat, the deduction would not have exceeded 10%. If wheat prices are maintained here at figures as high as in importing markets of Europe, this course of putting in ore for ballast will have to be resorted to, a privilege never but once having been as yet taken advantage of at this port. It is a new departure in the California trade that shows the tendency of this State to be a barley rather than a wheat exporter."

California Milling, new.....	1 52 1/2 @ 1 57 1/2
Cal. No 1 shipping, alongside.....	1 47 1/2 @ 1 50
Oregon Club.....	1 42 1/2 @ 1 47 1/2
Washington Blue Stem.....	— @ —
Washington Club.....	— @ —
Of quality wheat.....	— @ —

### PRICES OF FUTURES.

On Merchants Exchange prices of futures for No. 1 White wheat per cental for the week were as follows for the options named:

December, 1903, delivery, \$1.42 1/2 @ 1.48 1/2.

May, 1904, delivery, \$1 45 1/2 @ —.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.46 1/2 @ 1.48 1/2; May, 1904, \$ — @ —.  
Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	6s 1/4 @ 6s 5d	6s 7d @ 6s 7 1/2 d
Freight rates.....	25 @ 27 1/2 s	12 1/2 @ 15s
Local market.....	\$1 15 @ 1 17 1/2	\$1 45 @ 1 50

### FLOUR.

In sympathy with wheat, the flour market is showing a decidedly firm tone. There are no large stocks of either domestic or imported product, although latter is in best supply. The movement at full current rates is not very brisk, but it is the exception where holders show disposition to crowd stock to sale at concessions, unless the quality is faulty.

Superfine, lower grades.....	\$2 50 @ 2 75
Superfine, good to choice.....	2 55 @ 3 10
Country grades, extras.....	4 00 @ 4 20
Choice and extra choice.....	4 20 @ 4 40
Fancy brands, jobbing.....	4 45 @ 4 70
Oregon, Bakers' extra.....	3 40 @ 4 00
Washington, Bakers' extra.....	3 40 @ 4 15

### BARLEY.

There is active demand for this cereal, especially for desirable shipping grades. Exporters have large contracts to fill and are losing heavily at the prices they are now paying. A ship was taken this week for a straight barley cargo at 16s 9d to United Kingdom. Of the eighteen vessels now on the engaged list, the larger portion is expected to take barley as part or full cargo. While the most urgent demand is for brewing grades, desirable feed qualities are not being neglected.

Feed, No. 1 to choice new.....	\$1 05 @ 1 07 1/2
Feed, fair to good.....	1 02 1/2 @ 1 05
Brewing, No. 1 to choice new.....	1 15 @ 1 20
Chevalier, No. 1 to choice.....	1 35 @ 1 45
Chevalier, common to fair.....	1 10 @ 1 30

### OATS.

Market has been rather quiet during the greater part of the week under review, but at same time has not developed any noteworthy weakness. Current values, however, are being better sustained on choice to select than on ordinary qualities. Present offerings run largely to common grades. Many of the oats show a considerable sprinkling of barley, making them unfit for milling, nor will they be accepted by the Government or by buyers in search of choice feed.

White Oats, fancy feed.....	1 25 @ 1 27 1/2
White, good to choice.....	1 20 @ 1 25
White, poor to fair.....	1 12 1/2 @ 1 17 1/2
Gray, common to choice.....	— @ —
Milling.....	1 22 1/2 @ 1 27 1/2
Surprise, good to choice.....	— @ —
Black Russian.....	1 10 @ 1 15
Red, fair to choice.....	1 12 1/2 @ 1 25

### CORN.

The same unfavorable market for buyers as previously noted is being experienced. There is very little corn of any sort being presented for sale. Small Yellow is practically out of stock. Late sales of this variety have been made as high as \$1.85 in a retail way.

Large White, good to choice.....	1 55 @ 1 57 1/2
Large Yellow.....	1 57 1/2 @ 1 60
Small Yellow.....	1 70 @ 1 80
Eastern, in bulk.....	— @ —

### RYE.

In consequence of a wide difference in views of buyers and sellers, there is not much doing in this cereal. Growers are not crowding stocks to sales. Local millers have been buying in a limited way at or near extreme quotations.

Good to choice, new..... 1 12 1/2 @ 1 17 1/2

### BUCKWHEAT.

Quotable values are at a higher range, but are mainly nominal for the time being, in the absence of any trading of consequence.

Good to choice..... 2 00 @ 2 50

### BEANS.

While there are no heavy quantities of beans changing hands in the spot market, bids as a rule being lower than holders feel warranted in accepting, operators are endeavoring to contract with growers on the Sacramento river for early deliveries of new crop. For coming yield of Large Whites on the Sacramento bids have been made up to \$2.65, the beans to be delivered on the river bank. Inquiry at present is mainly for Large Whites and Pinks. Market for Limas and Black-eyes continues quiet and values are without quotable improvement.

Pea, fair to good, 100 lbs.....	3 25 @ 3 50
Small White, good to choice.....	3 15 @ 3 25
Large White.....	2 55 @ 3 00
Pinks.....	2 90 @ 3 05
Bayos, good to choice.....	3 60 @ 3 75
Reds.....	2 90 @ 3 10
Red Kidney.....	— @ —
Limas, good to choice.....	3 40 @ 3 50
Black-eye Beans.....	2 65 @ 3 00
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Same inactivity prevailing in this department as previously noted. Offerings and demand are both light. Values remain nominally as last noted.

Green Peas, California.....	1 60 @ 1 75
Niles Peas.....	2 25 @ —

### HOPS.

Little doing in hops in this center, and there is now poor prospect for any special activity until new crop begins to come forward in quotable quantity, which will be about a month or six weeks hence. While quotations are without special change, extreme figures are more in accord with present asking rates than with the views of close buyers. A New York authority thus summarizes the situation at large: "There has been a further decline in all of the country markets, without very much business resulting. On the Pacific Coast the choicest lots are now offering at 17c primary quality at 16c and a fair grade at 15c. The California crop is being damaged by lack of rain and the early estimates have been reduced some 10,000 bales. The yards in Washington and Oregon look fine. In New York State the prospects have been steadily improving under very favorable conditions. The stock still back in growers' hands is offering at about 17 @ 18c. The cause of the present weakness is due, in large part, to the fact that there are probably 20,000 bales of hops still left in first hands, and the new crop will be coming forward within the next two months. Our local market has been affected by the declining tendency at primary points, and it is quite doubtful if 20c could be exceeded for the choicest lots of either State or Pacific coast hops. Other qualities range from 19c downward, but all values at the moment are, to a considerable extent, nominal."

California, good to choice, 1902 crop..... 17 @ 20

### WOOL.

Stocks of wool offering in this center from first hands are of too small volume to admit of any noteworthy activity. Fall clip is expected to arrive in quotable quantity in about a fortnight. That choice Fall will meet with ready sale at figures in keeping with prices lately paid for Spring wools is altogether probable. The Panama steamer clearing on Saturday last carried 357,357 lbs. grease wool for New York.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Lambs, Northern.....	13 @ 14
Lambs, Southern and San Joaquin.....	9 @ 12 1/2

### HAY AND STRAW.

The improved figures below quoted for hay are being very well maintained, the demand continuing tolerably active, both for shipment and on local account. While receipts are of quite fair proportions, much of the hay coming forward represents purchases made in the interior, leaving spot offerings from first hands of quite moderate volume. Straw is in light stock and is selling at a wide range, choice commanding stiff prices.

Wheat, good to choice.....	11 00 @ 14 00
Wheat and Oat.....	11 00 @ 13 50
Tame Oat, good to choice.....	10 00 @ 12 00
Wild Oat, fair to good.....	9 00 @ 11 00
Barley.....	9 00 @ 11 00
Clover.....	10 00 @ 10 00
Alfalfa.....	9 00 @ 11 00
Stock Hay.....	7 50 @ 9 00
Compressed.....	11 00 @ 14 00
Straw, 1/2 bale.....	35 @ 60

### MILLSTUFFS.

Market was not seriously burdened with offerings of Bran or Middlings, neither was the demand very lively at full current figures. Some mill offal is being offered for near future delivery at less than spot prices. The market for Rolled Barley is strong and higher. All Milled Corn is in light stock and is being firmly held.

Bran, 1/2 ton.....	24 00 @ 25 00
Middlings.....	26 10 @ 28 00
Shorts, Oregon.....	24 50 @ 25 50
Barley, Rolled.....	22 50 @ 24 00
Cornmeal.....	33 00 @ 34 00
Cracked Corn.....	32 50 @ 33 50

### SEEDS.

The market for the several kinds quoted herewith continues exceedingly quiet. Quotable values remain at same range as last noted. The lot of 468 sacks Mustard announced as arriving last week was of the Yellow variety, was two years old, grown in Monterey county, and not of high grade.

	Per ctt.
Alfalfa, Utah.....	— @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 00 @ 2 25
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25
	Per lb.
Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/2
Hemp.....	3 1/2 @ 4

### HONEY.

There are no heavy stocks of any description in this center, but supplies are larger of both Comb and Extracted than for some time past. Market is showing a firm tone, some sales being made in a small way above quotations. The business doing is mainly on local account.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	5 @ 5 1/2
Extracted, Amber.....	4 1/2 @ 5
Extracted, Dark Amber.....	4 @ 4 1/2
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	— @ —

### BEESEWAX.

Only small quantities arriving. Good to choice is readily salable at full prevailing values.

Good to choice, light 1/2 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Beef was in moderate request, selling at practically the same range of prices as quoted in last issue. Veal arrived sparingly and for desirable offerings current values were well maintained. Mutton was in ample supply for immediate requirements, with market easy in tone, but not quotably lower. Lamb was not in excessive stock and choice sold to fair advantage. Hogs were in increased receipt and market was easier, packers reducing their bids. Eastern markets have been on the decline.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6 1/2
Beef, 3rd quality.....	5 @ 5 1/2
Mutton—ewes, 8 @ 8 1/2 c; wethers.....	8 @ 9
Hogs, hard grain, 150 to 250 lbs.....	6 1/2 @ 6 1/2
Hogs, large hard, over 250 lbs.....	6 @ 6 1/2
Hogs, small, fat.....	6 @ 6 1/2
Veal, small, 1/2 lb.....	9 @ 10
Lamb, Spring, 1/2 lb.....	10 @ —

### HIDES, PELTS AND TALLOW.

While there are no special changes to record for quotable prices for Hides and Pelts, the market has been ruling slow, with a rather weak tone, mainly in sympathy with easier conditions and reduced values in Eastern centers. Tallow is lower.

Nothing but select hides, clean and trimmed, will bring full figures. Cuts of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	— @ 10½ —	@ 9
Medium Steers, 48 to 56 lbs.....	— @ 9½ —	@ 8
Light Steers, under 48 lbs.....	— @ 8 —	@ 7½
Heavy Cow Hides, over 50 lbs.....	— @ 8½ —	@ 7½
Light Cow Hides, under 50 lbs.....	— @ 8 —	@ 7½
Stags.....	— @ 7 —	@ 6
Wet Salted Kip.....	— @ 9 —	@ 8
Wet Salted Veal.....	— @ 10 —	@ 9
Wet Salted Calf.....	— @ 10½ —	@ 9½
Dry Hides.....	— @ 17 —	@ 16
Dry Kip and Veal, 11 to 16 lbs.....	— @ 14 —	@ 12½
Dry Calf, under 4 lbs.....	— @ 19 —	@ 17
Pelts, long wool, ½ skin.....	1 00	@ 1 50
Pelts, medium, ½ skin.....	70	@ 90
Pelts, short wool, ½ skin.....	40	@ 65
Pelts, shearling, ½ skin.....	15	@ 30
Horse Hides, salted, large prime, each.....		2 75
Horse Hides, salted, medium.....		2 50
Horse Hides, salted, small.....		2 00
Horse Hides, dry, large.....		1 75
Horse Hides, dry, medium.....		1 50
Horse Hides, dry, small.....		1 25
Tallow, good quality.....		5½ @ 6
Tallow, poorer grades.....		4½ @ 5

### BAGS AND BAGGING.

The season's demand for Grain Bags is nearly ended. There are liberal stocks still on hand and prices remain low. There is a fairly active demand for Fruit Sacks, values continuing as last quoted. Not much doing in Wool Sacks and no changes in prices.

Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	4 1/2 @ 5
Grain Bags, Calcutta, buyer June—	— @ —
July.....	— @ —
Grain Bags, San Quentin, in lots of 2,000, 1/2 101.....	5 55 @ —
Wool Sacks, 4-lb.....	35 @ —
Wool Sacks, 3 1/2-lb.....	32 @ —

### POULTRY.

Market presented a little better tone than preceding week, the general run of offerings moving more freely, but prices continued at a low range, especially for common old and small young stock. The most active inquiry was for medium-size to full grown young chickens, which, in fine condition, sold to fair advantage. Ducks and Geese were in light request. The inquiry for Pigeons was not brisk and was mainly for choice young.

Hens, California, 1/2 dozen.....	4 00 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	6 00 @ 8 00
Fryers.....	4 00 @ 4 50
Broilers, large.....	2 50 @ 3 00
Broilers, small to medium.....	3 50 @ 4 00
Ducks, old, 1/2 dozen.....	4 00 @ 4 50
Geese, young, 1/2 dozen.....	1 25 @ 1 50
Geese, 1/2 pair.....	1 25 @ 1 50
Pigeons, old, 1/2 dozen.....	1 50 @ —
Pigeons, young.....	1 50 @ —

### BUTTER.

High-grade fresh was in fair request, with market for such stock moderately steady at about same range of prices prevailing the preceding week, but for defective qualities the situation was unfavorable to sellers. Eastern butter of various grades is being offered quite freely and local cold storage supplies are being drawn upon. Much of the fresh butter has to



come into close competition with cold storage and Eastern.

Creamery, extras, #10.....	25	@26
Creamery, firsts.....	24	@25
Dairy, select.....	23	@24
Dairy, firsts.....	23	@24
Dairy, seconds.....	21	@22 1/2
Firkin good to choice.....	17	@18
Mixed Store.....	17	@18
Pickled Roll.....	—	@—

#### CHEESE.

The supply of flats is showing some increase and market is easier, buyers operating slowly at full current values. The general impression is, however, that there will be no very marked declines in prices in the near future. Young Americas and all small cheese continue in slim supply and are being favored with a firm market.

California, fancy flat, new.....	13	@—
California, good to choice.....	12	@12 1/2
California, "Young Americas".....	13	@14

#### EGGS.

Strictly select fresh, uniformly large, white and in every way desirable, are selling to tolerably good advantage, commanding in some instances above prices warranted as wholesale quotations, but for ordinary fresh the market is showing no special firmness. Most buyers who are content with other than the most select fresh are running on cold storage or Eastern. The latter are in good supply and are obtainable at comparatively low figures. Eastern eggs are being laid down here in carload lots at 15@20c, as to quality, the lower figure being for seconds.

California, select, large, white and fresh.....	26 1/4	@27 1/4
California, select, irregular color & size.....	22 1/4	@25
California, good to choice store.....	18	@22

#### VEGETABLES.

Such changes as occurred in quotable rates were mostly to lower figures, although market for Yellow Onions proved an exception, being lightly stocked and firmer. Cucumbers, Summer Squash and Tomatoes were all in increased receipt and lower. Most of the Green Corn offering showed poor quality and choice brought good prices. String Beans and Peas were in fair supply, but only a small proportion of stocks was of choice to select quality.

Asparagus, #10 box.....	1 00	@ 2 25
Beans, Lima, #10.....	6	@ 7
Beans, String, #10.....	2	@ 3 1/4
Cabbage, choice garden, #100 lbs.....	75	@ 1 00
Corn, Green, #10 crate.....	1 50	@ 2 00
Corn, Green, #10 sack.....	1 25	@ 1 75
Cucumbers, #10 large box.....	40	@ 65
Egg Plant, #10 box.....	75	@ 1 00
Garlic, #10.....	2	@ 3
Mushrooms, #10.....	—	@ —
Onions, new Yellow Danver, #10 ctl.....	60	@ 75
Onions, new Red, #10 sack.....	65	@ 75
Okra, Green, #10 small box.....	65	@ 75
Peas, Sweet Garden, #10.....	2 1/4	@ 4
Peas, good to choice, #10 sack.....	1 25	@ 1 75
Peppers, Green Chile, #10 box.....	50	@ 75
Peppers, Bell, #10 box.....	75	@ 1 25
Rhubarb, #10 box.....	—	@ —
Summer Squash, #10 large box.....	30	@ 50
Tomatoes, #10 large box.....	40	@ 75

#### POTATOES.

Receipts were rather light during the greater part of the week, and the general trend of the market was in favor of sellers, especially for most desirable stock. Some favorite marks going to special custom commanded in a small way an advance on quotations. The demand was mainly on local account.

California Burbanks, #10 cental.....	1 00	@ 1 40
River Reds, #10 ctl.....	—	@ —
Garnet Chile, #10.....	90	@ 1 15
Early Rose, #10.....	75	@ 1 15
Potatoes in boxes, per cental.....	1 00	@ 1 50

#### The Fruit Market.

##### FRESH FRUITS.

Apples were in materially increased receipt, with common qualities mostly in evidence, and for this sort the market lacked firmness. Inquiry was fairly active for choice 4-tier Gravensteins, while offerings were principally 5-tier, these not being in particular favor with the trade. Apricots were not in especially heavy supply, but as canners did little buying, being well stocked with deliveries on contracts, the market for this fruit in bulk was slow and lower. Peaches also sold at a reduced range, receiving little attention from the canning trade, from same cause above noted. Pears were in fair receipt, mainly from Sacramento river section, and for other than choice to select the market was unfavorable to sellers. Plums and Prunes were offered quite freely and prices averaged lower than preceding week. Nectarines were not in particularly heavy stock, but demand for them was not brisk. Figs sold in a limited way to fairly good advantage, but no great increase in receipts would have been necessary for a weaker and lower market. Grapes were in only moderate stock, but were mostly unripe and in consequence did not sell readily or command in a regular way what could be termed stiff prices. Most Berries in season were in light receipt, and choice brought in the majority of instances tolerably good figures. Watermelons were in large supply, and while the weather for them was a little more favorable than previous week, prices continued at a low range. Cantaloupes and

Nutmeg Melons were in sufficiently liberal stock to cause the market to tend in favor of buyers.

Apples, fancy, #4-tier box.....	1 25	@ —
Apples, good to choice, #50-box.....	75	@ 1 00
Apples, common to fair, #50-box.....	40	@ 65
Apricots, #10 crate.....	25	@ 60
Apricots, #10 ton.....	15 00	@ 30 00
Blackberries, #10 chest.....	2 50	@ 4 00
Cantaloupes, #10 crate.....	1 25	@ 2 00
Crabapples, #10 small box.....	40	@ 75
Figs, Black, 2 layer, #10 box.....	75	@ 1 00
Figs, Black, 1 layer, #10 box.....	40	@ 65
Figs, White, #10 box.....	35	@ 65
Gooseberries, common, #10.....	—	@ —
Gooseberries, English, #10.....	—	@ —
Grapes, Fontainebleau, #10 crate.....	50	@ 1 00
Grapes, Seedless Sultan, #10 crate.....	1 00	@ 1 25
Loganberries, #10 chest.....	3 00	@ 5 00
Nectarines, #10 box.....	40	@ 75
Nutmeg Melons, #10 crate.....	75	@ 1 50
Peaches, #10 box.....	25	@ 60
Pears, Bartlett, #10 box.....	65	@ 1 00
Pears, other varieties, #10 box.....	40	@ 75
Plums, good to choice, #10 box.....	30	@ 50
Prunes, Tragedy, #10 box.....	30	@ 50
Raspberries, #10 chest.....	4 00	@ 6 50
Strawberries, Longworth, #10 chest.....	5 00	@ 7 00
Strawberries, Melinda, #10 chest.....	3 00	@ 5 00
Watermelons, #100.....	5 00	@ 20 00
Whortleberries, #10.....	8	@ 10

#### DRIED FRUITS.

Taking into consideration that the season for last year's dried fruit product has practically ended, and that not much new dried fruit has yet come forward, business the past week has been of quite fair volume. The bulk of recent business has been in Prunes of last crop, and at generally unchanged figures. Supplies are now low and some sizes are practically out of stock. The market for Prune futures is showing more firmness, the lowest asking figures being fully 1/2c above the prices of a week ago. Some tolerably heavy sales were reported early in the month on the 2 1/2c basis for four sizes of Santa Claras in sacks, but 3c is now an inside figure for Santa Clara fours, and there is no special selling pressure on this basis of values. New Apricots have been receiving considerable attention, prices ranging from 6 1/2@9c, as to quality, the bulk of the business being at 7@8c. New crop Evaporated Apples are offering in moderate quantity and are quoted at 5@5 1/2c for choice, latter figure for San Francisco delivery. Black Figs of current crop are being offered for forward delivery at 3 1/4@4c in sacks at packing points in carload lots. New White Figs in packages of ten 1-lb bricks are quoted at 60@70c per brick, as to quality. Dealers are talking 6@6 1/2c for choice new Pears, but there are no evidences of growers making contracts at these prices. Quotations for new Peaches remain undetermined, but it is believed the market will open close to the figures lately current for last season's product. With the exception of Apricots and Apples, the prices below quoted are for last year's fruit, and for most kinds are largely nominal at this date.

#### EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/2	@ 5
Apples, extra choice to fancy, 50-lb box.....	5	@ 5 1/4
Apricots, Moorpark.....	—	@ —
Apricots, Royal, good to choice, #10.....	7	@ 8
Apricots, Royal, fancy.....	8 1/4	@ 9
Figs, 10-lb box, 1-lb cartons.....	65	@ 75
Nectarines, #10.....	3 1/4	@ 4
Peaches, unpeeled, fair to good.....	3 1/4	@ 4
Peaches, unpeeled, choice.....	4 1/4	@ 4 1/2
Peaches, unpeeled, fancy.....	5	@ 5 1/2
Peaches, unpeeled, extra fancy.....	7 1/4	@ 7 1/2
Pears, halves, fancy.....	8	@ 9
Pears, halves, choice.....	5 1/4	@ 6
Pears, halves, fair to good.....	4 1/4	@ 5
Plums, Black, pitted.....	4 1/4	@ 5
Plums, Red and Yellow.....	5	@ 5 1/4
Prunes, Silver, good to fancy.....	4	@ 4 1/4
Prunes, in bags, 4 sizes, 2 1/4@2 1/2; 40-50s, 5 1/4@5 1/2; 60-80s, 4 1/4@4 1/2; 80-70s, 3 1/4@3 1/2; 70-80s, 2 1/4@2 1/2; 80-90s, 2 1/2@2 1/4; 90-100s, 1 1/4@1 1/2; small, 1 1/4@1 1/2.	—	@ —

#### COMMON SUN-DRIED.

Apples, sliced.....	3 1/4	@ 3 1/2
Apples, quartered.....	3 1/4	@ 3 1/2
Figs, White, in bulk.....	5	@ 5 1/4
Figs, Black, in sacks, #10.....	4 1/4	@ 5
Plums, unpitted, #10.....	1 1/4	@ 2

#### RAISINS.

Business doing is of light volume and at generally unchanged values. There are moderate quantities of loose Muscatels still unplaced, but not many layers of desirable quality.

Prices at common shipping points, crop of 1902: 2-crown London Layers, 30-lb boxes, \$1.10; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Debasas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, #10, 4-crown, 5 1/2c; 3-crown, 5 1/4c; 2-crown, 5c.

#### CITRUS FRUITS.

Oranges are not receiving much attention, owing to the abundance of other and more seasonable fruit. Most of the Oranges now in stock have to be overhauled to be in merchantable condition. The Lemon market showed a little more activity than preceding week, but supplies proved ample for the requirements and prices were without appreciable improvement. Limes sold at lower figures than last quoted, stocks being of fair volume.

Oranges, Washington Navel, #10 box.....	—	@ —
Oranges, Valencia, #10 box.....	1 50	@ 3 00
Oranges, Mediterranean Sweets.....	—	@ —
Oranges, Seedlings.....	1 00	@ 1 50
Lemons, California, select, #10 box.....	2 50	@ —
Lemons, California, good to choice.....	1 75	@ 2 25
Lemons, California, fair to good.....	75	@ 1 75
Grape Fruit, #10 box.....	75	@ 1 75
Limes, Mexican, #10 box.....	4 00	@ 4 50

#### NUTS.

The spot market is quiet. There are some Almonds of last crop still in stock, but not many of most desirable varieties or of high grade. The Davisville Almond Growers' Association solicits bids for coming crop, the bids to be opened at Davisville on Saturday, Aug. 1st. Walnuts are in too light stock to quote. For No. 1 of new crop buyers name 11c f. o. b. at producing points. Peanuts are ruling steady, with stocks only moderate and demand fair.

California Almonds, shelled.....	10	@ 20
California Almonds, paper shell.....	11	@ 12
California Almonds, soft shell.....	8	@ 10
California Almonds, hard shell.....	5	@ 5 1/2
Peanuts, fair to prime.....	4 1/2	@ 5 1/2
Peanuts, Eastern, hand-picked.....	5 1/2	@ 6 1/2
Walnuts, White, soft shell.....	—	@ —
Walnuts, White, standard.....	—	@ —

#### WINE.

The same slow state of trade previously noted continues to be experienced in the wine market. There is considerable dry wine still in the hands of producers, and not much demand, the heaviest buyers being practically out of the market for time being. For dry wines of last year's vintage the quotable range is 15@18c per gallon, as to quality, but transfers at top figures are not readily effected and are possible only on strictly choice stock. The steamer City of Sydney, sailing July 25, carried 79,578 gallons and 47 cases, including 78,731 gallons for New York. Receipts last week were 371,550 gallons.

#### Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, #4 sks.....	104,766	312,007
Wheat, cts.....	9,153	74,341
Barley, cts.....	55,104	19,046
Oats, cts.....	16,886	41,970
Corn, cts.....	1,887	4,739
Rye, cts.....	2,200	3,990
Beans, sks.....	4,6 8	6,093
Potatoes, sks.....	19,065	73,378
Onions, sks.....	4,245	13,035
Hay, tons.....	3,952	14,005
Wool, bales.....	1,752	3,516
Hops, bales.....	318	418

#### EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, #4 sks.....	39,184	142,232
Wheat, cts.....	1,469	13,833
Barley, cts.....	11,527	87,723
Oats, cts.....	424	1,510
Corn, cts.....	265	1,045
Beans, sks.....	297	1,503
Hay, bales.....	5,525	9,595
Wool, lbs.....	73,246	205,248
Hops, lbs.....	10,167	15,779
Honey, cases.....	9	27
Potatoes, pkgs.....	1,676	6,591

#### Wheat Crop of India.

A final general memorandum on the wheat crop of India of the season 1902-3, issued on June 2, 1903, by the Government of India and transmitted by Consul William Thomas Fee of Bombay, estimates the total output at something over 7,800,000 tons (291,120,000 bushels), against 6,063,000 tons (226,352,000 bushels) in 1901-2. The estimates for 1902-3, however, include 587,000 tons (21,915,000 bushels) grown in the United Provinces in combination with barley and grain. The exports of wheat from India during the last five years are given in the estimate as follows:

	Tons.	Bushels.
1898-99.....	976,025	36,438,267
1899-1900.....	485,204	18,114,233
1900-1.....	2,501	93,371
1901-2.....	366,091	13,667,397
1902-3.....	514,807	19,212,155

PACKING LOTS OF FRUIT. — Visalia Delta: The Earl Fruit Co. put twelve more packers to work at the house in Visalia on Tuesday, which increases the list of packers to forty-five. In addition, there are a number of men and boys at work to handle the fruit otherwise. To date sixty-five cars have been shipped by the company from Visalia this season. At the present time the packers are at work on peaches. Some pears are being packed, while the Tragedy prunes are being cleaned up. However, there are about 1000 crates of the latter-named fruit to be brought in from the ranches yet. Owing to the light, the pear crop will be very light. The company is having unusually good luck with the fruit shipped to the East and it is bringing a good price.

#### Wanted to Buy Bulk, Dark Color Bee Honey.

Must be as taken out of hive, with wax in. If any bee keepers have 5 or 10 barrels or carload lot, will buy. Pay cash. Write and state price. Z. S. LEYMEL, 411 Northampton St., Wilkesbarre, Pa.

## W. A. PLUMMER,

Importer and Manufacturer of

## BEAN BAGS, Twines,

TENTS, AWNINGS AND WAGON COVERS.

111 CLAY STREET,  
San Francisco, Cal.

## MALTHOID

The best low priced roofing

### Malthoid Roofing.

Fire resisting. Will thoroughly protect all buildings covered with it. A better roofing for less cost than any other roofing made. Quickly laid and lasts for years.

Send for booklet.

### The Paraffine Paint Co.

San Francisco, Seattle,  
Portland, Los Angeles  
and Denver, Colorado.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

## DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

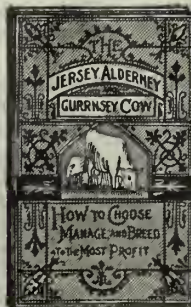
PATENT AGENTS,

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.

#### JERSEY, ALDERNEY and GUERNSEY COWS.



By Willis P. Hazard.

Their History, Nature and Management. Showing how to choose a good cow; how to feed, to manage, to milk and to breed to the most profit. Edited from the writings of Edward P. Fowler, George E. Waring Jr., Charles L. Sharpless, Prof. John Gamgee, Fr. Guenon and others. Illustrated with engravings and diagrams, etc. Bound in full cloth. Size, 5 1/2 x 8 1/2 in. \$1. postpaid.

Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.



## Tuttle's Elixir



Cures all species of lameness, curbs, splints, contracted cord, thrush, etc. in horses. Equally good for internal use in colic, distemper, founder, pneumonia, etc. Satisfaction guaranteed or money refunded. Used and endorsed by Adams Express Company.

**TUTTLE'S FAMILY ELIXIR** Cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience" FREE.  
Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass.  
487 O'Farrell St., San Francisco, Cal.  
Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.

## THE VETERINARIAN.

### Sunstroke of Horses.

In spite of the fact that in the interior of California the heat sometimes runs very high, there is comparatively little prostration of either men or horses. Still, it is desirable to learn lessons on the subject and to be ready to apply rational treatment in case prostration occurs.

An urgency bulletin by Dr. A. S. Alexander, veterinarian of the Wisconsin Experiment Station, is very suggestive in this direction: During periods of excessive heat, when work horses in the fields or upon the streets are liable to suffer from sunstroke or "overheating," much may be done by the owner to lessen the likelihood of an attack. Seeing that affected horses are usually those that are sick or "soft," every possible means should be taken to prevent indigestion and fit the animal to withstand labor in hot weather. Horses under five years of age are more apt to suffer than seasoned, adult animals, hence should be worked lightly during hot weather, as should new purchases and horses being acclimated in a new location. Indigestion, the common forerunner of sunstroke, is indicated by dullness, sluggishness, thick urine, panting at light labor, sweating in stable and the changeable character of the manure, which is normal some days and again clay-colored, mucous-covered or an undigested, offensive mass. When so affected it is extremely dangerous to work the animal in extra hot weather. Slight change of food, more care in feeding, rest and simple correctives are required in such cases, and preventive measures may be adopted as follows: Feed hay night and morning only; give drinking water before meals and in small sips often when at work; prefer clean, soft water to that rendered "hard" by the presence of lime salts, which tend to derange the stomach; remove harness at noon and allow sufficient time for rest and mastication of food; groom skin thoroughly once daily; feed sound food; avoid corn in summer, as it is heating; prefer sound old oats, which repair waste of tissue and promote vim and endurance; avoid sudden changes of food and do not feed, heated, green grass or clover; cleanse stable daily, ventilate perfectly, screen doors and windows, remove manure piles from vicinity of stable; feed fresh food each meal; shade horse's head when at work; avoid heavy, wet sponge; if possible, do not work three horses abreast, as the middle horse suffers thereby and is the most liable to sunstroke; where such combination cannot be avoided, change horses often to afford as much relief as possible; choose coolest hours for work and change teams often during sultry, moist weather, when thunder storms are prevalent.

**SYMPTOMS OF OVERHEATING.**—Horse lags, requires urging, may pass soft manure and gas, sweats but dries off suddenly, becomes weak, staggers, pants, has dilated nostrils, red eyelids and lining of nostrils, anxious countenance, weak, rapid pulse, high fever, falls. In sudden attack may fall at once, show above symptoms and die in a few minutes or hours after period of madness or unconsciousness and loud snoring. Following bad attack brain

becomes softened and animal stands with head jammed in corner, is blind, forgets to chew food and remains a "dummy"—i. e., stupid, weak and useless in hot weather. Less severe attacks recovered from unfit horse for work in warm weather.

**TREATMENT.**—Do not bleed or allow bleeding to be done. Do not give acornite, belladonna, acetanilid—they are highly dangerous in amateur hands. Do not put icepack on head—it tends to produce softening of the brain. Stop work immediately, remove harness, get horse into a shady place, under a tree where there is a breeze or draft of air. Administer half a pint of whiskey in equal quantity of water, or two ounces of alcohol (not wood alcohol), well diluted with water, or two ounces of sweet spirits of niter and one ounce of aromatic spirits of ammonia in one quart of water. Repeat in half above doses hourly until horse revives. Add four ounces of granulated hyposulphite of soda if he is bloated; tap with trocar and canula high in right flank if bloating is excessive; and in bloated cases give rectal injections of soapy warm water hourly. High fever may be detected by hand in horse's mouth or use of thermometer in rectum. If it is 108° Fahr. or over, give one ounce saltpeter dissolved in a pint of water, in addition to stimulants prescribed above, and repeat in six hours. From start of treatment keep cool, wet packs to poll of head and sprinkle entire body with cold water from a sprinkling can held a foot above body. A piece of ice may be placed in water thus used. If pressure water is at hand, tie hose to browband of bridle and allow gentle stream of cold water to flow constantly over patient's head. On recovery, feed lightly upon bran mashes and a little grain, and allow rest for two weeks; do not work again in hot weather during season of attack. Where symptoms of brain-softening remain after attack, give one drachm iodide of potash three or four times daily in a little water, according to severity of symptoms, and continue cold, wet packs to head. Feed soft, light, easily digested food.

### Fruit and Alfalfa.

Modesto and Turlock irrigation districts, located in Stanislaus county, in central California, have completed their extensive systems. This puts 180,000 acres under irrigation, and anything that can be grown in California can be grown there. Anyone desiring information about that locality can get the same by applying to A. B. Shoemaker, Modesto, Cal.

## Removal Notice

### The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes, WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

### OUR SPECIALTY IS CUTTER'S BLACK LEG VACCINE.

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

### School of Practical, Civil, Mechanical, Electrical and Mining Engineering.

Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.

Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1894. Send for Circular.

## SHARPLES TUBULAR CREAM SEPARATORS

A dozen bucket bowls but only one

### Tubular.

We alone make the Tubular, all competitors make the old style bucket bowls. They cannot make tubular bowls because of our patents. The Tubular is worth fifty per cent more than any of the old style bucket bowl separators, as thousands of dairymen will testify. Write for Catalogue No. 131 THE SHARPLES CO., Chicago, Illinois. P. M. SHARPLES, West Chester, Pa.



## Capri Figs.

With live Blastophaga to fertilize figs.

Can supply from August 1st to September 1st.

\$2.00 PER DOZEN

By Mail Postpaid.

CALIFORNIA NURSERY CO.

NILES, CALIFORNIA.

## THE "BOSS" TREE PROTECTOR.

Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

### PRICES:

12 inches long,	\$ 9.00 per 1000
14 " "	10.00 " "
16 " "	11.50 " "
18 " "	12.50 " "
24 " "	15.00 " "
30 " "	17.50 " "

Agents Wanted Everywhere.

YUCCA MANUFACTURING CO.,

450 SANTA FE AVE., LOS ANGELES, CAL.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## THE TROTTER HORSE OF AMERICA.

How to Train and Drive Him, with Reminiscences of the Trotting Turf.



By Hiram Woodruff.

The author was one of the most noted horsemen of this country, and in the work before us has given to the public the best thoughts, founded on years of experience in the feeding, handling, breaking and training of colts with a view to securing their best performances. Besides treating of driving horses, it gives a condensed history of the best horses in this country. 12mo. Size, 5 1/2 x 7 1/4 inches. Cloth, extra, \$1. postpaid. Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.

DEWEY, STRONG & CO., Patent Agents, S. F., Cal., and Washington, D. C.

## Full Sacks

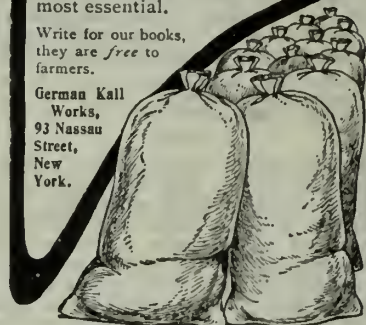
of plump, rich grain are obtained by the use of a fertilizer containing not less than 6% actual

## Potash

For Wheat, Rye, Barley, and all other grains, Potash is most essential.

Write for our books, they are free to farmers.

German Kall Works, 93 Nassau Street, New York.



MEYER, WILSON & CO., San Francisco, Cal. Sole Agents for the Pacific Coast.

## PNEUMATIC FRUIT GRADER



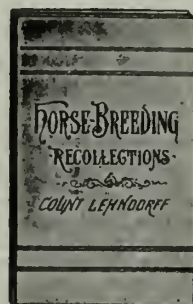
Saves Money. Sizes Everything from Plums to Oranges

Packers and shippers of deciduous fruits will find this a perfect sizer which handles the fruit gently between two soft pneumatic cushions. No bruising. Has been used on ripe Georgia peaches for two seasons with entire success. Write for complete description and price. Wright Brothers, Riverside, Cal.

JOHN A YEATMAN & CO  
13 FIRST STREET SAN FRANCISCO, CAL.

IRRIGATORS ATTENTION!  
WE MANUFACTURE  
ECLIPSE Centrifugal Pumps  
AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.  
Send for Folder.

## HORSE - BREEDING RECOLLECTIONS.



By Count Lehendorff, the manager of the Government stud of Germany, who has made a special study of the intricacies of horse breeding, and in the volume before us, embodies the result of years of careful study. While all may not agree with his conclusions, none will dispute the value of his observations. Size, 5 1/2 x 8 1/4 inches. Bound in full cloth. \$1. postpaid.

Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.

## Feeds and Feeding.

By W. A. HENRY.

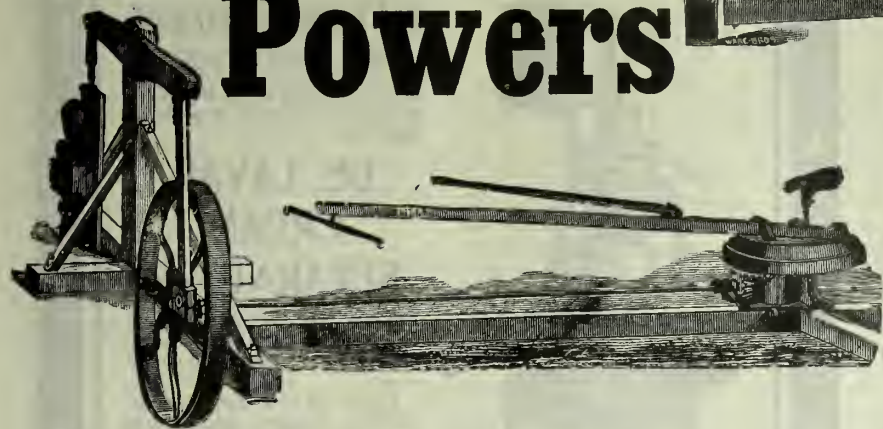
This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH. Price, \$2 Postpaid.

PACIFIC RURAL PRESS, 330 MARKET ST., SAN FRANCISCO.



# Horse Powers



MANY STYLES:

From 1-Horse to 12-Horse.

Get Circulars and Prices.

## BAKER & HAMILTON,

Sacramento, San Francisco, Los Angeles, Cal.

### Squirrel Killing.

The orchardists and farmers of the foothill districts of this county, says the San Jose Mercury, regard bisulphide of carbon as by long odds the best squirrel antidote they have ever used, and one which they believe it will be hard to improve upon. Properly applied, and at the proper season the year, it will kill 90% on once going over a field, and the second application will kill all that are left. Of course, where neighboring fields are left untreated, a new crop of squirrels will come in and the work must be repeated, but this is no argument against the carbon.

This is not the experience of one man, but of hundreds in Santa Clara valley. It is not essential that the ground be wet; if it is moist enough to plow well it will answer every requirement. Broadly speaking, the season for using the carbon effectively is from the first general rain to May 1st.

The most approved method is to apply it by means of a pump made expressly for the purpose. This consists of a galvanized iron cylinder with a hand-bellows attachment, by means of which the carbon fumes are forced through about 3 feet of hose directly into the squirrel holes. After the hose is inserted in the hole, dirt is tamped (with the foot) around it; from twenty-five to forty strokes are given on the bellows, the hose is withdrawn and the small opening left is also closed and tamped. Then you move to the next hole. In colonies it is necessary to note whether the carbon is escaping at other orifices and, if so, of course these must be promptly closed.

The expense of clearing land of squirrels by this method, including labor, will not exceed \$1 an acre, and it is frequently done for half that amount. The pump, which is patented, cost in this market last season \$5.

Those who do not care to invest in the pump can obtain almost as good results by tearing rags into strips and winding them into balls about the size of a hen's egg. Saturate the balls in the bisulphide, lift them out with a pair of tweezers, insert one in the hole, apply a match and push the burning ball down the hole and fill with dirt as rapidly as possible. The tweezers or pincers are necessary to avoid burning the fingers, as the gas generated is highly combustible.

Whether the work done is effective or not can be determined by ascertaining whether or not the holes are reopened within twenty-four hours.

It is essential that the carbon be fresh. If opportunity is given for evaporation it loses its virtue very rapidly. Whether it is of good strength can be determined by the presence or absence of the fumes, which are extremely strong and pungent when the carbon is good.

**CORN HARVESTERS.** It cuts and throws it in pile. One man and one horse cuts equal to a corn binder. Price \$12. Circulars free. NEW PROCESS MFG. CO., Lincoln, Kansas.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in our lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 18

FRESNO, CAL.

## LARGEST CITRUS NURSERIES IN THE WORLD

Trees True to Name; Standard Varieties; Catalogue Free.

R. M. TEAGUE SAN DIMAS CITRUS NURSERIES San Dimas, Cal.



### PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue with Prices.

BURNHAM-STANFORD CO.,

Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.

San Francisco Office, 40 New Montgomery St.

## The Rialto Canner

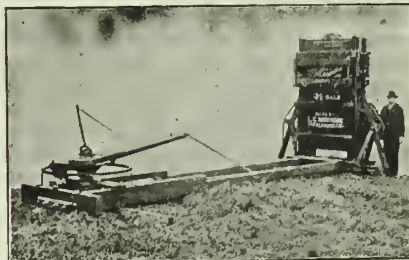
Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

### NOTICE.

The Annual Meeting of the Stockholders of the GRANGERS' BUSINESS ASSOCIATION, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 309 California Street, San Francisco, at 10 o'clock A. M., Tuesday, the 11th day of August, 1903. A. D. LOGAN, Vice-President. CHARLES WOOD, Secretary.

## JUNIOR MONARCH HAY PRESSES.



Standard and 3/4 Bale Sizes.

Manufactured and for Sale by

L. C. MOREHOUSE.

WM. H. GRAY, Agent, San Leandro, Cal.

**75%** That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. **THIS MACHINE AND ALL**

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator. SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities. Gen'l Agts. **HOOKER & CO.** 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## The Fresno Scraper.

3 1/2-4-5 Foot.



FRESNO AGRICULTURAL WORKS, FRESNO, CALIFORNIA.

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.

PACIFIC RURAL PRESS.

330 Market St., San Francisco, Cal.



## Governmental Horse Insurance in Bavaria.

Bavaria has within the last thirty years made remarkable progress in the domain of governmental insurance. The centralizing and modernizing of insurance by the government against fire in 1874 was followed in 1884 by an insurance provision against hail, which the state officials and farmers alike consider a most unique institution. In 1896 Bavaria provided government insurance of cattle, recognizing the great importance of the cattle industry to this Kingdom. After that provision had stood the test of time, the Minister of the Interior, Dr. Baron von Feilitzsch—the originator of hail and cattle insurance—took steps leading to the solution of the more difficult problem of the insurance of horses.

A statement of accounts has just been issued by the Royal Chamber of Insurance regarding the Bavarian horse insurance, which by the law of April 15, 1900, went into effect on November 1, 1900, and has therefore passed its first business years.

This latest benevolent institution of Bavaria awakens the deepest interest among horse owners, and is furthered by the State and the townships. It has already overcome the initial difficulties and developed so surprisingly that it may be reckoned as one of the greatest of horse insurance institutions. Like all other Bavarian governmental insurance, it rests upon the foundation of unions. These unions embrace entire districts as subdivisions. There are now 398 combined unions, with 34,748 horses, and an insurance capital of 28,666,540 marks (\$6,822,636). This remarkable success is due to the co-operation of the Bavarian government and influential people interested in horse breeding. The management has eschewed all bureaucratic tendencies, and the State and township officials have been mainly friendly counselors to the parties directly interested.

I gather from the yearly report that the officers of the Royal Chamber of Insurance assist in the founding of the unions and are detailed to suggest and supervise the conduct of the business of the unions, but without an attempt to participate in their management. A paper of instruction from the skillful pen of the director of the royal stud, Mr. Schwarzmaier, is published by the Royal Chamber of Insurance and gratuitously circulated among the various unions.

Bavarian governmental horse insurance is not exclusively for the benefit of agricultural interests, but is an institution for city as well as country people. It extends to all regions where horses are bred, and counts many of the cities of Bavaria in its unions.

JAMES H. WORMAN,  
Consul-General.

Munich, June 1, 1903.

PAGE

## Visit Our Exhibit

at the Fair; let us show you the simple construction, and the quality of wire in the PAGE.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



## THE RAISIN INDUSTRY.

A Practical Treatise on Raisin Grapes  
Their History, Culture and Curing.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. H. G. Ward, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers.

Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

PACIFIC RURAL PRESS,

330 Market Street, San Francisco, Cal.

## Big Returns from Fruit Land.

George Eustice cleared last season from a fraction less than two acres over \$1000 from his crop of apricots. This was the net yield after all expenses were paid. He has a rich piece of land situated a mile south of town, for which he paid \$300 an acre. Here is an example of a crop paying in one season the cost and interest accumulation on the land. He has a large crop of apricots this year on the same land, and a crop of prunes on eighteen acres, not excelled in the county.—Gilroy Advocate.

## Celery Planting.

Celery planting in the peatlands began this week. About 70% of the crop will be of the Golden self-bleaching variety, and the remainder largely of the White Plume. A good planter will set from 8000 to 10,000 plants a day, although the average is considerably less. It is estimated that the acreage will be less than last year, 2000 acres being planted, while there were nearly 2500 last year. The season promises, on the whole, to be a prosperous one good prices are anticipated.—Anaheim Gazette.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING JULY 14, 1903.

733,572.—ROD—C. F. Axelson, Los Angeles, Cal.  
733,795.—LOGGING SPOOL—R. Barr, Carrollton, Wash.  
733,823.—CHAIR—C. C. Black, Healdsburg, Cal.  
733,455.—ELEVATOR CLUTCH—J. A. Bridge, S. F.  
733,372.—NIPPLE—F. A. Colwell, Oakesdale, Wash.  
733,623.—BARKING DOG—T. H. Curtis, Astoria, Or.  
733,463.—OIL BURNER—E. D. Dennison, Stockton, Cal.  
733,823.—MITER BOX—R. H. Dorn, Los Angeles, Cal.  
733,704.—MAIL BOX—W. G. Dougall, S. F.  
733,711.—WATER LEVEL INDICATOR—Flood, Sayer & Campbell, Spokane, Wash.  
733,636.—SHARPENING SAWS—G. A. W. & J. H. L. Folkers, S. F.  
733,907.—MINING CAGE—Hanson & Dwight, Los Angeles, Cal.  
733,563.—FREIGHT BARGE—L. R. Harvey, S. F.  
733,653.—LOCK FOR SIDEWALK ELEVATOR DOORS—P. H. Jackson, S. F.  
733,397.—MECHANICAL STOKER—E. W. Jones, Portland, Or.  
733,487.—WASHER—E. H. Krebs, Oxnard, Cal.  
733,488.—WEATHER STRIP—J. B. A. La Jeunesse, Alameda, Cal.  
733,489.—WEATHER STRIP—J. B. A. La Jeunesse, Alameda, Cal.  
733,552.—MINER'S CRATE—G. R. MacDonald, Seattle, Wash.  
733,730.—BOILER—H. A. Miller, Crockett, Cal.  
733,418.—LOADING DEVICE—T. M. Park, Darrington, Wash.  
733,740.—GAS GENERATOR—J. S. Philpott, Windsor, Cal.  
733,748.—SEWER TRAP—F. W. Rathbun, S. F.  
733,749.—DRAG SAW FRAME—E. E. Redfield, Grants Pass, Or.  
733,599.—LOOSE LEAF BINDER—W. Saunderson, Oakland, Cal.  
733,754.—NUT LOCK—P. C. Secor, S. F.  
733,683.—FRUIT CARRIER—G. W. Stevens, S. F.  
733,882.—PROPELLOR—C. H. Taylor, Seattle, Wash.  
733,770.—PIPE WRENCH—J. B. Tupper, S. F.  
733,771.—TIN FOILING BOTTLES—Twitcheh & Brown, Los Angeles, Cal.  
733,444.—CARBURATOR—L. F. Washburne, S. F.  
733,442.—BAG HOLDER—B. H. Willis, Redding, Cal.  
733,889.—BABY BUGGY—Susan C. Wolfskill, Winters, Cal.

## Highly Recommended.

130 East Second Avenue,  
Roselle, N. J., May 25, 1901.

Dr. B. J. Kendall Co., Enosburg Falls, Vt.  
Gentlemen: I have used your Kendall's Spavin Cure for horses and have recommended it to many friends, who are also now using it, and find it satisfactory.

Enclosed find a two-cent stamp for Kendall's "Treatise on the Horse and His Diseases".  
Very truly yours, WILLIAM T. DAY.

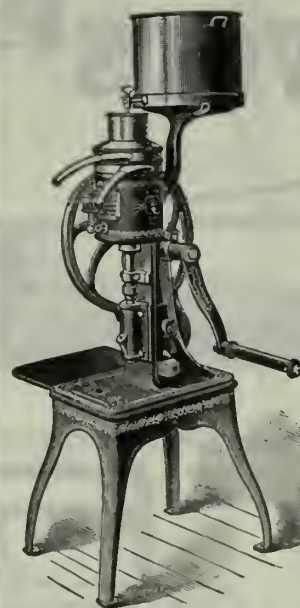
## Moravian Barley.

Grown in the Livermore valley  
from seed brought to this country  
from Hungary by the U. S. Agricultural Department.

Hanna or Moravian Chevalier heads out two weeks earlier than the Chevalier usually grown in this State; resists drought, hot weather and wind better than other varieties. In Germany and Austria it is known as the best brewing barley.

FOR SALE IN QUANTITIES TO SUIT BY

August Hagemann,  
LIVERMORE, CAL.

There are Two Sides to Successful Dairying--  
COWS AND A DE LAVAL SEPARATOR.A Cream Separator  
WILL PAY YOU

If you buy the right machine  
and there is only one right  
machine.

DE LAVAL  
CREAM  
SEPARATORS

are used exclusively by every  
large and experienced cream-  
ery and dairyman the world  
over.

Profit by the experience of  
400,000 farmers and equip  
your dairy with a De Laval.  
Especially valuable in home  
dairying.

Everything needed in the dairy  
supply business carried by us. We  
carry the largest stock of dairy  
supplies on the Pacific Coast.

Write for the new 20th Century  
Catalogue.

## DE LAVAL DAIRY SUPPLY COMPANY,

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

## POOR SEPARATORS MAKE POOR FARMERS!

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

## CONTENTS.

## Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

## Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Wind and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

## GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY  
COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California  
California Climate as Related to  
Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation.  
Garden Drainage in California.  
Cultivation.  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Raspberries.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying.  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## Kaffir Corn in San Bernardino.

F. N. Chaplin has made a contract which illustrates well the possibilities of Kaffir corn growing in the valley. He met a man who has bought a half section in Eastside and who was anxious to have feed ready for stock which he will put on the land in the fall. Mr. Chaplin agreed to grow Kaffir corn on his own half section if the stranger would pay 25 cents a bushel in the field on the stalks and would advance all the money for meeting expenses in growing the crop, and the offer was accepted. When the corn is grown an acre will be harvested to form a basis for estimating the total yield. Judged by last year's experience in growing Kaffir corn, Mr. Chaplin should receive from \$12 50 to \$16 an acre for the 320 acres of corn, unharvested.—Times-Index.

## A New Berry.

Mrs. R. G. Hazen brought to the Index office a box of the finest berries so far shown this season, or other seasons. They are a new variety, a sport between the red raspberry and the blackberry, with the red raspberry color and flavor, but even larger and

more attractive than the justly famed Loganberry. The variety is one of Luther Burbank's productions, and he was particularly desirous of hearing how they thrived in Monterey county. Mrs. Hazen set out a vine two years ago and now has twenty or more, all bearing a heavy crop.—Salinas Index.

## Profit in Muscatel Grapes.

At the present time there is a good big profit in Muscatel grapes, although the growers here generally are planting the seedless variety. This week a contract was closed with a grower in this vicinity at 3½ cents per pound for Muscatel raisins in the sweat boxes, which is about \$17 per ton for the green grapes. While the price is not so high as the seedless raisin, the expense in raising the other variety is less and the crop is always sure. Now that machinery has been installed for the successful seeding of these raisins the demand for them has increased and the trade is thus encroaching somewhat on the standard seedless varieties.—Yuba City Farmer.

DR. S. A. TUTTLE.

Dear Sir: I received the last order from you in good time. Find enclosed \$1.00, and send me two bottles of your horse Elixir without delay, as I need it to use right away. I am all out of it and can't do without it a day. Never seen anything like it. You will hear from some friends of mine in a few days, as they are trying some of your worm powders with great success. I am working my horse every day now and was laid up all winter with colic, but don't know how soon it might break out again. I have recommended your medicine very highly in this part of the country. They are surprised to see me working my horse.

Please send as soon as you can and oblige.

JOHN H. FLAHERTY,  
Gropseyville, N. Y.

## Breeders' Directory.

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1898. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS**. Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**THOROUGHbred POLAND-CHINA** FOR SALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**SANTA TERESA POULTRY FARM** Mendocino Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminium Leaf Bands; sample 2 cts.

**BRONZE TURKEYS**. Ed. Hart, Clements, Cal.

## SHEEP.

**R. H. CRANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY**, 508 Sacramento St., San Francisco Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS**, Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**Cocoonut Oil Cake**. THE BEST FEED FOR STOCK, CHICKENS AND PIGS. For sale in lots to suit by **EL DORADO LINSEED OIL WORKS CO.** 208 California St., San Francisco, Cal.

## LIVE OAK STOCK FARM,

Six Miles N. W. from PETALUMA, on the Petaluma and Sebastopol Road.

FRANK A. MECHAM, Prop.

Importer and Breeder of

## Red Polled Cattle.

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.

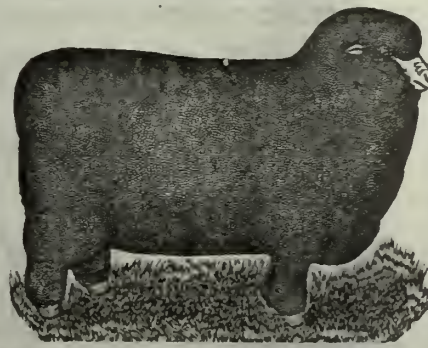


FRANK A. MECHAM,

Importer and Breeder of Shropshire Sheep. They were all imported from England, or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MECHAM, Importer and Breeder, Shipping Points: PETALUMA AND SANTA ROSA, SONOMA CO., CAL.

## THE U. S. EXCELS ON ANY TEMPERATURE

Our "would-be competitors" the DeLaval Separator Co., finding themselves badly beaten in the six weeks' tests of six different makes of Separators at the Kansas Agricultural College, as shown by the official Bulletin No. 123 issued May 26, 1903, in their efforts to break the force of so disastrous a defeat, have compiled a Bulletin of their own "getting up" purporting to be signed by several students, in which they try to make it appear that the DeLaval was not terribly beaten, as the Official Bulletin shows it was, as follows:

Average test of skim milk of DeLaval Separator	.048
" " " U. S. "	.033
U. S. excels DeLaval	.015

Showing that the DeLaval Separator left 45 per cent. more butter fat in the skimmed milk than the United States.

Again in this "gotten up" Bulletin, our "would-be competitors" state that the U. S. Separator "choked up" on 39 lbs. of milk at 70 degrees of temperature and that the DeLaval ran 80 lbs. Every dairyman using a U. S. Separator knows that the U. S. will not "choke up" on 80 lbs. of good milk at 70 degrees, and that such statements are made in an attempt to break the rapidly gaining popularity of the

## U. S. SEPARATOR

We make the following proposition to any dairyman wishing to buy a separator, viz.: We will put a U. S. Separator into his dairy and agree that it will not "choke up" on 80 lbs. or twice 80 lbs. of milk in good condition at 70 degrees, provided he will pay for the separator if it does not "choke up."

The best authorities do not advocate separating at 70 degrees, but if Dairymen prefer to, the U. S. will do it when properly adjusted.

The U. S. Separator skims cleaner than any other separator on the market at any temperature from 70 degrees to 156 degrees at proper adjustment. The Official Bulletin No. 123 of Kansas Agricultural College, dated May 26, 1903, states that

*The U. S. Excelled All Others in Tests of Skimmed Milk and in Minimum Total Loss.*

THE U. S. SEPARATOR HOLDS WORLD'S RECORD

Vermont Farm Machine Co., Bellows Falls, Vt.

320

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT &amp; CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## HOLSTEIN CATTLE.

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders.

Large Number of Officially Tested Cows, Bull Calves from Great Producing Dams. Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.



## W. &amp; P. ROOFING.

Good goods. Easily transported. Easily applied. Perfect covering.

Let us send you sample.

## PACIFIC REFINING &amp; ROOFING CO.

113 New Montgomery St., SAN FRANCISCO.

## FOR SALE.

Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123.

J. W. McCORD, Hanford, Cal.

## BULLS FOR SALE.

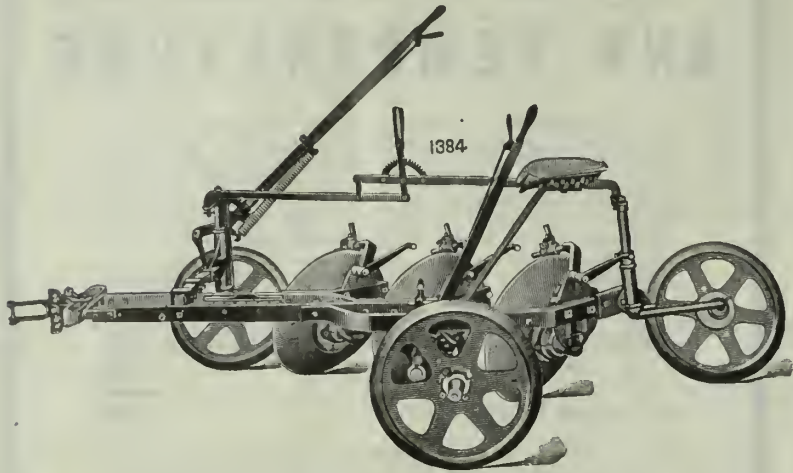
Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWCHILLA STOCK FARM.

Address.... ISAAC BIRD, Merced, Cal.



# AN IMPORTANT POINT



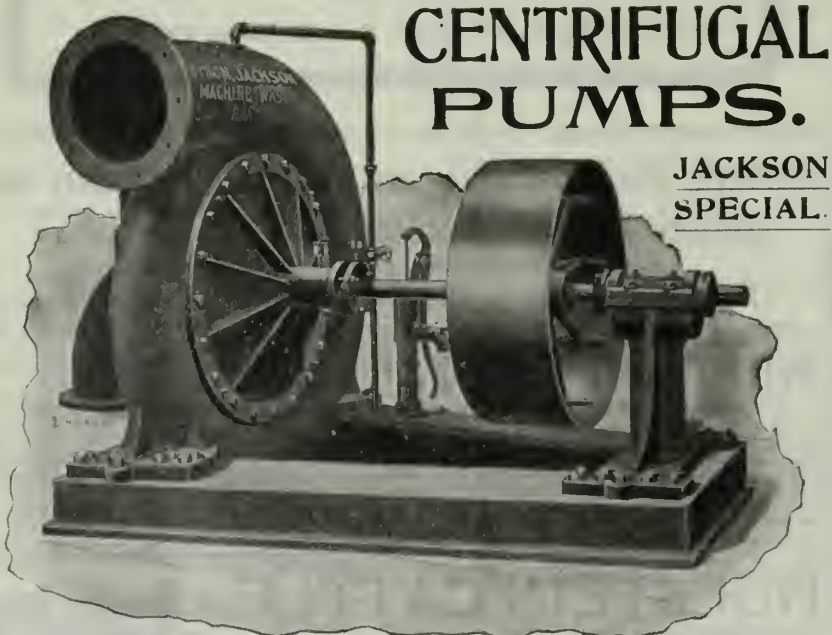
## Deere Disc Plows TURN A FULL FURROW.

Made with 1, 2, 3 and 4 Discs.

on all disc plows is the disc bearing. In plowing the pressure is all on the lower half of the disc, and when a simple bearing through the center of the disc is used the leverage against it is great and in hard, dry plowing will wear out very quickly; the discs lose their proper set, becoming more perpendicular and will not enter the ground as they should. The DEERE DISC overcomes this difficulty by using a dust proof, ball-bearing disc with bearings ten inches apart; this reduces the leverage and does away with the friction. Another important point is a landing device which will control the plow independent of the team. These features are to be found in the DEERE DISC PLOWS and no others.

## Deere Implement Co.

209-211 Market Street, SAN FRANCISCO, CAL.



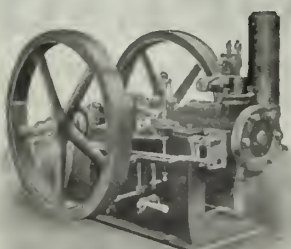
### CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO.  
Write for Catalogue E.

### Hercules Gasoline Engines



**FOR** PUMPING WATER,  
CUTTING ENSILAGE,  
SHELLING CORN,  
SAWING WOOD,  
CLEANING GRAIN,  
RUNNING SEPARATOR, Etc.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

**Baker & Hamilton,**  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

**GREENBANK** BEST PRUNE DIP,  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

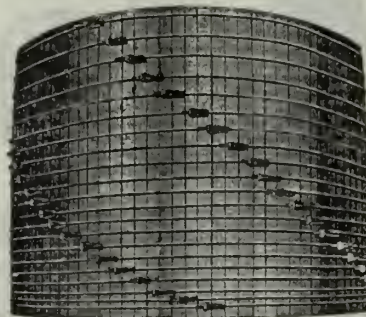
### HAVE YOU SEEN THE Jack of All Trades

—A GASOLINE ENGINE  
of the most modern type for farm use?  
Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.  
Saves Labor—Earns Money  
Write for free descriptive catalogue "Fa."  
**Fairbanks, Morse & Company,**  
San Francisco, Los Angeles,  
Portland, Or.



### OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**

SOLE MANUFACTURERS,

Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.



### TOULOUSE & DELORIEUX,

620-622 COMMERCIAL ST.  
SAN FRANCISCO, CAL.

### OLIVE MILLS.

WINE MACHINERY.

THE LATEST AND BEST.

SEND FOR CATALOGUE.



CALIFORNIA STATE LIBRARY

to be taken from the Library.++++

# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 6.

SAN FRANCISCO, SATURDAY, AUGUST 8, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### The Cork Oak.

A picture of a little bunch of cork oaks now growing on the hills of the State University site at Berkeley suggests a few remarks on this interesting tree in this State. The cork oak came to California as early as, if not earlier than, the eucalyptus. The latter are each year becoming more conspicuous features of the California valley and foothill landscapes, while the former will have to be sought for carefully and with the assistance of local guides. On the hilltop just above the University buildings there is a clump of fifteen cork oaks, planted there sixteen years ago, some English oaks being planted at the same time. The best cork oaks are rather larger in girth of trunks than are the English oaks; three are 16, 20 and 23 inches. Of these fifteen trees, six will average fully 10 feet in height, while the others are more or less scrubby. Both cork and English oaks are very healthy, and seem as well established here as any native tree in the adjacent gulches. The only profit possible from oak plantations in such soil as this must come from trees constantly side-pruned and cultivated for several years. If a shrubby growth can be avoided, both the English and the cork oaks would be worth something in half a century or so.

In other parts of the State, where growing conditions are better, the cork oaks have made a much better showing and their history is interesting. There were a few years ago in the vicinity of

Campo Seco, Calaveras county, five cork oaks, all about the same age, having grown from the acorns of 1857. Besides these there were, and may still be, quite a number of younger ones. The largest tree of the first planting was measured in 1887 and was then 30 inches in diameter at the root, 26 inches three feet above the surface, and it was 60 feet high. The other trees are not so large, one being 16 inches through and another 12 inches through. The trees had to take care of themselves since they were planted. The soil is the prevalent red soil of the foothills. The elevation above the level of the sea is 1000 feet. They have all borne acorns, but are not heavy bearers. The jays and woodpeckers are very destructive to them and often take every acorn. The gophers are also very destructive to the trees, eating the bark of the roots of the small ones.

About the same time there was reported in Todds Valley, Placer county, a cork oak, also from an 1857 acorn. The height of the tree in 1887 was 30 feet. The circumference of trunk one foot above the ground was 4 feet 4 inches; two feet from the ground, 4 feet. It commences to branch out 14 feet above ground and is there 3 feet in circumference. Some of its largest limbs are 12 to 13 feet long and from 18 to 20 inches in circumference. The bark was 6 inches thick up to four feet above the ground.

Other cork oaks from the planting of 1857 attained considerable size and much local fame at Visalia, at San



Clump of Dwarfed Oaks on Dry Hillside.

Gabriel and in Sonoma valley, but in the first instance the tree had to make way for local improvements. During the decade 1880 to 1890 considerable quantities of acorns from the trees described above were distributed throughout the State, and this younger generation should begin to be heard from.

In Europe the principal supply and the best cork is taken from the *Quercus suber*; and this is the species which has been introduced into California. Another cork oak is *Quercus occidentalis*. The former is found in Algeria and the Mediterranean region of Europe, while the latter is at home in Gascogne, France. The two are almost alike, differing only in time of ripening of the acorns. *Quercus suber* ripens its fruit the same year, while *Quercus occidentalis* requires another year to mature them. In foliage and general habit of growth the cork oak resembles our common California live oak (*Quercus agrifolia*) very closely, although the leaves are often of a more bluish cast than those of the latter. The acorns are also of similar shape and size. The trunk of the tree, however, early shows the cork in the crevices of the bark, at once making it distinct from any other oak.

### The Poison Oak.

The California poison oak is not an oak any more than the Eastern poison ivy is an ivy. Both these irritating plants are rhuses, and not oaks nor ivies, and their casual resemblances to the less noxious plants have brought the latter into bad company in the matter of popular names. But poison oak does look like an oak and several oak-browsing animals take to it readily, being apparently immune to the irritation which it produces in human tissues. This fact brings the poison oak into Mr. Mackie's category in the thesis upon the value of oak leaves for forage to which we have previously alluded. His observations on the plant are interesting.

The poison oak (*Rhus diversiloba*) is usually a small shrub from 2 to 5 feet

high, but occasionally it ascends the trunks of trees as a vine to a height of 15 or 20 feet. The leaflets contain an irritating and poisonous volatile oil, which poisons many persons by simple contact or even by diffusion in the air. The fruit is pale, about three lines thick, and quite abundant. The plant is everywhere common through the hilly portions of California.

On the ranges the leaves and berries are readily eaten by sheep, goats and horses, but not by cattle, as far as could be ascertained by observation and numerous inquiries. Many of the bushes are stripped entirely of leaves long before they would naturally drop them.

Mr. Mackie had considerable experience in handling poison oak leaves. For the purpose of analysis the leaves were gathered during the month of September, when they were fully mature. Only those which were green and vigorous were taken. These were dried in a room of ordinary temperature, and were then ground to a fine powder. It would seem that the irritating and poisonous oil of poison oak is volatile at a comparatively low temperature. In gathering the specimen the analyst was badly poisoned, even though gloves were worn; yet after drying at ordinary room temperature, and the leaves pressed into the mill with bare hands, no poisoning effects followed. This would seem to indicate that if one could bake the poison oak before coming into contact with it, it would be harmless. Unfortunately, all the heated language which arises after the irritating contact has been made has no effect upon what Mr. Mackie calls the irritating oil of the plant.

The delegation of Texas horticulturists, to whose visit allusion was made last week, arrived in the State in good order and began their sight-seeing with two days in the Los Angeles region. They then visited Fresno and reached Berkeley on Saturday. On Monday they went to Vacaville, thence to Santa Rosa and finished the week in the San Jose district.



Foliage and Bloom of Poison Oak—*Rhus Diversiloba*.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, August 8, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Clump of Dwarfed Oaks on Dry Hillside; Foliage and Bloom of Poison Oak (*Rhus Diversiloba*), 81.  
EDITORIAL.—The Cork Oak; The Poison Oak, 81. The Week, 81.  
QUERIES AND REPLIES.—Leaf Trouble of Mango Seedling; Change of Soil for Tomatoes; Horn Flies; Dieback of Foothill Trees, 82. Clovers on the Northwest Coast; Ill Growth of Muir Peaches; Seedling Apricot; Early Tomatoes Absent; Ticks in Chicken Houses; Birds or Almonds, 83.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending August 3, 1903; Temperature and Rainfall, 83.  
ENTOMOLOGICAL.—Horticultural Quarantine, 84.  
THE ORNITHOLOGIST.—The Kingbird and Bees, 84.  
THE GARDEN.—Mulching vs. Cultivation, 84.  
HORTICULTURE.—Shall We Extend Our Citrus Groves? 85.  
THE FIELD.—Mid-Continent Musings on Alfalfa, 84.  
THE DAIRY.—What is Buttermaking Worth? 85. Live Stock and the Dairy, 86.  
THE SUGAR BEET.—Drying Beets in Germany, 86.  
AGRICULTURAL REVIEW.—87.  
THE HOME CIRCLE.—A Sunshiny Woman; The Love That Lives; Why We Shake Hands, 88. Told in Finger Tips; Why Razors Get Tired; A Monster Gun; A Tunnel That Helps to Dig Itself; Domestic Hints, 89.  
THE MARKETS.—Produce Market; Fruit Markets, 90.  
FRUIT MARKETING.—California Fruit for Europe; Report on Lemons and Walnuts in Italy; Walnut Crop of Hungary in 1903, 92.  
THE IRRIGATOR.—Irrigation Congress at Ogden, Utah, 94.  
THE STOCK YARD.—Stock Growers and the State Fair, 95.  
MISCELLANEOUS.—New Patents, 94.

## The Week.

Preparations for the great encampment of the Grand Army of the Republic are being vigorously pushed and are beginning to indicate the material features of the welcome which the metropolis will extend to the coming heroes. In some respects this will be unique and surprising. Throughout the State also much interest is being taken and all regions are expecting to join in the benefits and pleasures which will accompany the entrance of thousands of old and new friends to the State. Naturally, those who are thinking sharply now of securing the greater development of the State are planning to use to its fullest the opportunity to impress and please. Though the events in the metropolis will naturally focus the chief light of the affair, it is intended that everything possible shall be done to facilitate local excursions and visits to points of interest by all to whom our varied interests appeal. To this end numerous towns are planning local receptions and exhibitions, and it is expected that the visitors will travel widely throughout the coast before returning to their homes. It is believed that the throngs which will soon arrive will be the greatest which, at one time, ever entered the State.

Grain values have advanced again and the great confidence prevails. Milling wheat has gained 50 cents to \$1 per ton since our last report and shipping should be just as active, but the shippers are timid. Three clearances of wheat and barley have been made—mostly barley—in fact nearly a quarter of a million dollars worth of barley has gone out. Freight rates are unchanged and weak. Barley is stiff and higher for export grades. Oats and rye are also higher and corn is strong at least week's advance. Beans are quiet and steady except that bayos are off. Millfeeds are unchanged and stocks light. There are heavy arrivals of hay, but largely bought before arrival, and prices are unchanged. Beef and mutton are the same as last week; large hogs are also stationary while small and medium are lower. Butter is weak and prices shading in the presence of heavy arrivals of Eastern. Cheese is easier for flats and some coming from Oregon. A few fancy fresh eggs bring full prices, but Eastern and cold storage eggs are pushed into sale as fast as possible. Large broilers are doing better but common are unchanged; two cars of Eastern increasing the supplies. Potatoes keep up, but the demand at top prices is not brisk. Onions are steady, as shipments to Australia are a relief. Tree fruits are rather easier, except apricots. Valencia oranges are going in small volume, lemons are quiet

and limes are abundant and low. Dried fruits are firm and held above buyers' views: apricots being stronger than the rest of the list. Small old prunes are going at a lively rate but at a low price. Almonds sold Saturday at Davisville: 100 tons Hatch varieties at 9½ to 10½c and fifty tons common soft shells at 8½ to 9c. Honey is firm but inactive aside from small jobbing trade. Little is doing here in hops and country figures are reported easier. Wool is firm and in good tone but little is now offering here. Another 200,000 pounds have gone out by steamer this week.

Red tape seems to have thrown its meshes even over the grand old mountains of California and to have entrapped even those charged with the duty of protecting those splendid possessions of the State from the loss of their forest covering. There was a fire in the Yosemite region the other day and between martinets of officials it nearly had its own way. The report goes that the United States officer stationed at Wawona claimed that the Glacier point fire was on the State Park reservation and was loath to send his soldiers to check the blaze. Meantime the guardian of the State preserves said the fire was doing damage only on grounds belonging to the National Government and withheld the aid of his forces stationed in the valley, so the fire blazed on, finally doing damage to both State and National Park grounds. When the flames spread across the boundary line and threatened Glacier point and the hotel, and when the valley was filled with smoke, the park guardian sent up his men, and after two days' hard fighting the burning was checked. Possibly a few hours' work would have saved an immense area if either of these high functionaries had been thinking more of the forest than of his official phylacteries. As it is, we need an interstate commission located up there to put out fires not clearly located geographically! After you, my dear Gaston, while the fire burns. May it singe the forelocks of both of them.

While the busy season is still on, it is comforting to reflect that there will be time for thought and study later. We hope many of our readers, who are young at least in interest and spirit if not in years, are thinking about a short course in agriculture, horticulture and animal industry at the State University during the coming autumn. Last year's short course was so satisfactory to all concerned that another opportunity will be given to those who can spare only a few weeks for systematic study of the sciences and methods involved in their life calling. The short course will open on Tuesday, October 6, and end Thursday, December 17. A circular, descriptive of the special course in dairying, has been prepared and can be had on application to the University at Berkeley. Another circular describing the broader course, which will include some lines of animal work in connection with agriculture and horticulture, will soon be prepared. It is just time now to think about reserving ten weeks this fall for this engagement.

Those who have grapes to sell this fall should not be misled by the reports of excessive production. Professor E. H. Twight, viticultural expert of the University of California, after an extended tour of the State, believes that the grape crop for this autumn will be much smaller than that of last year. This will be true in spite of the fact that some 10,000 additional acres of wine grapes have been planted and 5000 of raisin grapes. While the acreage of dry wine grapes has decreased, that of sweet wine grapes has increased. The cause of this decrease in the great Sonoma and Napa valleys is ascribed to the presence of the phylloxera and to a new and mysterious disease which has appeared with great injury in the vineyards of that region. The nature of this trouble is not yet made out, but it is receiving constant investigation. Mysterious diseases of the vine have now covered most parts of the State and it will put the experts to their best work to demonstrate the causes. Fortunately, however, there is much territory free from trouble and the product will be all the more profitable as excessive volume is less likely to be reached. Ways around the trouble, if not through it, may be confidently expected.

Santa Cruz county is so well pleased with the University work against the codlin moth at Watsonville that the county supervisors have added \$250 to their appropriation for the local expenses of the

work, making \$1500 in all. Monterey county will probably bring her appropriation to a like amount. Demonstrations of success in meeting the moth, such as was never reached before, are accepted by the growers in whose orchards the work has been going on.

## QUERIES AND REPLIES.

### Leaf Trouble of Mango Seedling.

TO THE EDITOR:—I send a leaf of a "mango" tree. It is one from a plant that I have raised from the seed of a fruit bought in the Los Angeles market. It now stands about a foot high and is planted in an oil can, the latter being well perforated in the bottom for drainage. The plant is growing in the open air in Pasadena. What I wish to know is the cause of the brown edge that shows on the enclosed leaf. There are a half dozen leaves on the plant, and some small new ones coming. The older leaves all have this brown edge. Presuming it is some disease with which you are well acquainted, I send you the leaf for determination and would be pleased if you can offer any remedy. At one time the plant grew against the bottom of the can, but I replanted it in a larger can, and it seems to me that the root can not yet be to the bottom.—AMATEUR, Pasadena.

We do not find on the mango leaf which you send any indication of disease. It seems, rather, as though the margin of the leaf had been scalded by the water which had collected on the edge and then possibly been heated by the sun before evaporation. You have, however, some scale insects already established upon the plant, and it would be desirable to brush the old leaves and the stem with soapsuds, and as you have only one plant to treat, you can use an old toothbrush or something of that sort of which the bristles are not stiff enough to injure the leaf surface. Those scale insects ought to be exterminated at once, or else they will multiply and possess your plant later.

### Change of Soil for Tomatoes.

TO THE EDITOR:—Will not tomatoes produce if grown on the same soil the second year in this locality? It was not so in Ohio. Some element seems exhausted with one season's growth. There surely is a remedy. Hoping to have the mystery explained, I am—ENQUIRER, San Diego.

Of course, in poor soils there might be exhaustion of some element of plant food, but it would be very poor indeed if one season's growth exhausts it. Sometimes bacteria multiply in the soil and are destructive to the plant. For that reason frequent change of ground is desirable. Give the land a dressing of manure and dig it in thoroughly this fall in preparation for the spring planting of tomatoes, and then apply just water enough during the first part of the growing season to keep the plants growing slowly, and we think you will find the fruiting satisfactory.

### Horn Flies.

TO THE EDITOR:—Is there anything that will keep flies off cattle?—SUBSCRIBER, Natividad.

Nothing perfectly satisfactory and permanent as a repellent of these flies is known to us. A family cow or a few cows can be protected by making suits of burlap clothing for them out of old grain sacks, being sure to cover the parts where the flies collect, because out of reach of the animal's tongue or tail. Temporary relief can be had by smearing such parts with a heavy oil—fish oil into which a little carbolic acid has been stirred serves very well. Some report favorably upon kerosene oil—simply rubbing the hair with a rag wet in kerosene; not soaking the hair with it.

### Dieback of Foothill Trees.

TO THE EDITOR:—I notice a blight on pear trees in the vicinity of Nevada City. A single limb dries on the top or side of the tree, surrounded by branches reasonably healthy. I see the same on apple, plum and cherry to a less extent.—BENJAMIN SANFORD, Fernley.

Probably the loss of top or side branches is due to root trouble last year, resulting either from lack of irrigation or from excessive irrigation, for both these conditions produce the same effect. This manifestation appears on all trees in the way you describe. Pear blight kills back twigs first, then branches, then limbs, but it does not make just the same appearance that the dieback does, nor does it affect all the trees which you mention. All the dead or dying branches should be cut back to good, healthy wood, and moisture conditions of the tree be looked after hereafter.



## Clovers on the Northwest Coast.

TO THE EDITOR:—For this climate, is it best to plant clover seed in the early fall or spring, and is it right or wrong to sow other grains with it? I have an idea that alfalfa can be grown here. In preparing the soil, would you think that if it is plowed shallow first, then plowed deep and disked and rolled, then the seed be sown, harrow very shallow to loosen the top soil, that a person might get a stand of alfalfa, or would you advise sowing it in rows, so that the weeds may be kept out? Is it better to sow some other seed with it, and what time of the year should it be planted? The soil is a sandy sediment and rich, with a good depth.

Are red oats better than white oats in relation to feeding cattle?—ENQUIRER, Smith River, Del Norte county.

Unless your summer is moist enough, so that you can get the ground in shape and seeded to clover early enough in the fall to get a good stand before the heavy frosts of winter come on, it would be better for you to sow in the spring. Spring sowing is manifestly safer in your part of the State than elsewhere, because you have so much moisture available during the later spring months. General experience seems to indicate that one is surer to get a good stand of clover by sowing alone, rather than with other grains. The method which you describe for the preparation of the soil is very good and it would be suitable for sowing any of the clovers, or for alfalfa, if that plant would succeed with you. We would not think of sowing in rows and cultivating, but would rather trust the clover to catch on and to crowd out the weeds afterwards. By cutting before these weeds go to seed, the clover can be given the advantage. We are not sure that alfalfa has been given sufficient trial in your part of the State to demonstrate its value, but present experience certainly favors Red and White Dutch clover as better suited to the local conditions. Alfalfa is a deeper rooting plant than the other clovers and might be superior on light, deep soils without irrigation, if the water was about 10 feet from the surface and did not remain higher than that for any length of time. Alfalfa will not stand overflow, nor will its fleshy root resist the rise of the ground water. Red and white clover have fibrous roots and are not injured by overflow or saturation for a considerable period.

Red oats are not better than white for feed, but they are often much better for the grower, as more hardy, less subject to rust and to spattering out at maturity.

## III Growth of Muir Peaches.

TO THE EDITOR:—I send some twigs from two-year-old Muir peach trees which appear to be affected with some disease. I would like to know the cause and remedy. There are a great many peach trees of all ages and varieties in this section affected the same way. They began turning yellow early in the spring and now the foliage is dropping badly. On most of them I can find no trace of spider. Does shothole fungus ever attack peaches? These twigs were taken at random from three trees which have had two irrigations this season and good care. They are on a good clay loam soil which is free from weeds and has sufficient moisture.—ORCHARDIST, Dinuba.

The twigs of the Muir peach do not show indications of disease which would account for the unsatisfactory growth. There is a trifle of leaf spot to which the peach is subject, which is seldom abundant enough to do any particular harm, and this is true in your case. Therefore the cause of this unsatisfactory appearance must be in the root or in the soil. The trees are very weak, as is manifested by the unusually slim growth, short distance between buds, small leaves—lacking in substance—etc. At first thought we should conclude that the trees had been lacking for moisture all along, but what you say about irrigation and cultivation seems to make that unlikely, unless your trees are growing in a soil which is laid upon gravel, through which the moisture would freely pass out of reach of the trees. Of course, insufficient root force resulting in such wood and leaf growth as these twigs show could arise from other causes. It could come from standing water during the previous winter; it might come from alkali. Anything which will seriously injure the root will produce this effect, and one receiving merely twig specimens of this kind can only conjecture as to immediate cause of the trouble. Dig down and see what you can find near such a tree and contrast the condition with what you find alongside a tree which is free, satisfactory growth. The first thing to be sure

of is that the moisture in the subsoil at the present time is enough to enable the tree to proceed further with its summer growth, providing it was not interfered with by some other agency.

## Seedling Apricot.

TO THE EDITOR:—I send some apricots to see what their merits are. The 'cots are from a seedling tree growing in my woodpile. It is about eight years old, and the last four years has borne very heavy crops, with no care except a couple of partial prunings. The flavor, when cooked, is extra fine—in fact, the best I ever tasted. The tree is a strong grower, but the fruit is not all ripened at once, being about two weeks' time from the first ripe 'cots until the last are ripe. My object in giving this matter attention is simply for the benefit it will be to the State in case they prove all right and as good bearers as the mother tree is.—F. M. BROWN, Davisville.

The apricots are of satisfactory form, with a small pit, perfectly free, which is a desirable point, and the flesh of good color. Unfavorable conditions would be some fibers which are encountered in the flesh, which are quite undesirable, especially in the dried fruit. The flesh is rather scant in flavor, but, of course, fresher specimens might be better in this respect, and the size of the fruit is quite small. In view of these objections, it does not seem that this seedling is likely to be any improvement on the standard varieties which we now grow. Of course, regular bearing is a very good point, and, if the tree should continue this for a few years more, it might seem to be worthy of cultivation. As a rule, however, new varieties are seldom successful, unless they extend the season of the fruit, or are strikingly large and handsome. We would keep the tree under observation, give it possibly a little better treatment and thin out the fruit next season to see what improvement can be made in size.

## Early Tomatoes Absent.

TO THE EDITOR:—There are many instances of tomatoes failing to "set" up to the middle of this month, in places where a few years ago the fruit set a couple of months earlier. Some growers lay the blame to an insect, another to sprinkling water on the vines. Can you give any information on the subject?—GROWER, St. Helena.

Generally the reason why tomatoes fail to set fruit early in the season is because the plants are growing too rankly at that time of the year when moisture is so abundant in the soil. Our best early tomatoes are usually grown on rather dry uplands where there is not likely to be excessive moisture and the plant makes only moderate growth and sets fruit regularly. Rich low lands are suitable for the later growth of tomatoes, and for this purpose, although the ground is regularly plowed and harrowed well in due season, the plants are not set out until quite late in the spring. When this is the case the excessive spring moisture has escaped and the plants make a more satisfactory growth and set fruit regularly. This failure to fruit is not due to an insect. It may be due to sprinkling water on the vines, but not so much the contact with the vines as conveying additional and excessive water to the soil. If you allow your plants to dry a little, not enough to injure them, of course, but just enough to secure a slower growth, your fruit will set in a satisfactory way.

## Ticks in Chicken Houses.

TO THE EDITOR:—A few days ago, when cleaning my chicken house, I discovered in cracks in the wall a lot of bugs that resembled wood ticks. They come out at night and suck the blood from the chickens' legs and feet. I have killed some as large as Bayou beans after they have had their fill. I keep my chickens out of house altogether now, and have used coal oil and tar on roosts, and then burned sulphur in house at night. I have also dipped the chickens in a solution of crude carbolic acid.

Will you please inform me what they are, or if there is anything else to do to get rid of them? I thought I was taking good care of the chickens and the house in regard to cleanliness. I have sprayed often with lime and put ashes around for chickens to dust in.—READER.

You have done about all that you can do. The killing of these ticks is very difficult. They were fully discussed in the PACIFIC RURAL PRESS of October 25, 1902. It seems to require actual burning to destroy them, and for this reason it is advised to make chicken shelters of galvanized iron, so that they can be burned out occasionally. If your remedies do not avail, you will have to think about that.

## Birds or Almonds.

TO THE EDITOR:—We have a small orchard of Nonpareil and I. X. L. almonds. When the husk of the fruit bursts is the nut ready to gather? Or must it be left to harden on the trees, and for how long? The birds remove the kernel as soon as the husk bursts and it looks as though they would destroy the whole crop.—L. K. E., Elk Grove.

Almonds should mature and harden in the husk and should not be disturbed too soon, and when it comes to the issue you are facing you must have fewer birds if you want more almonds. You cannot handle the almonds economically until they are ready to come down rather easily. Perhaps if you shoot a few birds the rest will move on. What bird is doing the work?

## WEATHER AND CROPS.

## Report of the U. S. Weather Service for Week Ending August 3, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

## SACRAMENTO VALLEY.

The weather was slightly warmer than during the preceding week. Barley harvest is nearly completed and wheat harvest is progressing rapidly. The yield of early wheat in some sections is considerably better than expected, and it is now reported that in a few places late wheat will yield nearly half a crop. Barley is a fair crop. Grain and baled hay are being shipped. The warm weather caused a rapid ripening of deciduous fruits and benefited grapes. Peach drying is in progress and Bartlett pears are being shipped to markets and canneries. Prunes are filling out and will yield a large crop. All deciduous fruits are reported in excellent condition and yielding heavily. Grapes are doing well and large crops of all varieties are expected. Citrus fruits are thrifty.

## COAST AND BAY SECTIONS.

Cool, cloudy and foggy weather continued during the week along the coast, but in the interior the weather warmer and more favorable for crops. Grain harvest is progressing, and in many places the yield of wheat and barley is somewhat better than estimated. Cool weather has benefited late wheat, which in some sections will yield nearly half an average crop. The hay crop is of good quality, but lighter than usual. Sugar beets at Pleasanton and Hollister are doing well; the acreage is less than last season's. Corn is looking well. Hops are backward and the yield will probably be below average. Beans are thrifty. Peaches and other deciduous fruits are maturing rapidly and yielding excellent crops. Apricots in San Benito county are better than expected. Sweetwater grapes at Cloverdale are nearly ripe. Grapes are doing well and will yield heavily.

## SAN JOAQUIN VALLEY.

Clear, warm weather during the past week was beneficial to all crops. Grain harvest is now nearly completed in all sections. The fruit crop, which was somewhat backward owing to cool weather, has developed well, and is now ripening rapidly. Large quantities of pears and early varieties of peaches and prunes are being handled. Unusually large shipments of green fruit are being made to Eastern markets. Cutting and drying of fruit are making rapid progress. Heavy shipments of watermelons are being made from Fresno and vicinity. The grape crop is making good progress and promises to be large. Water is very scarce in the ditches. Stock are healthy and in good condition.

## SOUTHERN CALIFORNIA.

The weather during the week was nearly normal. Grain harvest continues and is drawing to a close in some sections. The grain and hay crops are the best for several years, though wheat is reported light in portions of Santa Barbara county. Alfalfa is below average in some places. Sugar beets at Santa Maria are yielding heavily, with a good percentage of sugar. Beans, corn and potatoes are in good condition and give indications of large crops. The walnut crop will be light. With the exception of apricots, all deciduous fruits will yield good crops. Apples and pears are being gathered. The yield of guavas will be larger than usual. Peaches and nectarines are of good quality. Lemon picking continues. Grapes and oranges are doing well.

## Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 5, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.04	.09	.25	.13	66	52
Red Bluff.....	.00	.00	.00	.03	104	56
Sacramento.....	.00	.00	.00	T	96	52
San Francisco.....	.00	.00	T	.02	68	48
Fresno.....	.00	.00	.00	T	104	58
Independence.....	.00	.00	.17	.07	94	36
San Luis Obispo.....	.00	.00	T	.01	80	44
Los Angeles.....	.00	.00	.00	.02	80	54
San Diego.....	.00	.00	.92	.05	70	60
Yuma.....	.00	.00	.11	.18	108	72



## ENTOMOLOGICAL.

## Horticultural Quarantine.

By ALEXANDER CRAW, Deputy State Horticultural Commissioner at the University Farmers' Institute at Long Beach, Los Angeles County.

In complying with your request to address this session of the Farmers' Institute upon "Quarantine Against Insects," it was because I thought it possible to be present, as it occurs at a time when the importation of plants and trees is lightest.

Another important consideration that made it possible was that I had previously received instructions from State Commissioner of Horticulture Ellwood Cooper, to visit all the southern counties and investigate the present condition of insect pests in the orchards, as to their control, and especially to learn the result of the efforts made by Mr. Cooper to establish the various beneficial insects introduced into California for the suppression of the noxious introduced species. It is a well-known fact that all the really destructive scale pests and most of the other insects infesting our orchards and gardens are exotic, and finding in California a congenial climate, free from the checks that keep them in subjection in their native countries, have increased in some cases to such an alarming extent that it has been found necessary to annually spend thousands of dollars in an effort to check their too rapid increase.

Within the past fifteen years only two serious insects have been established in the orchards and both were brought in on trees by rail—one, the "black peach aphid" (*Aphis persica niger*) from the Eastern States, and the "purple scale" (*Mytilaspis citricola*) from Florida on citrus trees.

In the past twelve years thousands of trees and plants have been intercepted coming from foreign countries infested with insects living at the expense of the trees or plants, and have been destroyed. Most of the insects were new to California and numbers new to science. Samples were preserved in glass tubes and are now on exhibition in the offices of the Commissioner of Horticulture at Sacramento and San Francisco.

The "black peach aphid" and the "purple scale" are not natives of the United States, so a careful inspection and quarantine at the port of entry would have probably prevented their entry into the East and Florida, just as such restrictions would have prevented the introduction of the so-called "San Jose scale" (*Aspidiotus perniciosus*) into California years ago and its subsequent spread on nursery stock over the United States and portions of Canada.

Laws for the suppression or control of this inconspicuous but pernicious pest have been enacted by nearly every State in the Union; unfortunately, in each case, after the pest had become established within its borders.

IN GERMANY.—Germany and other countries have passed laws to prevent the introduction of that scale. To show that they do not intend to take any chances of its introduction, I will cite a case that was called to my attention. The firm of Castle Bros., of San Francisco, shipped a carload of dried Bartlett pears to Hamburg. The fruit was quarantined there because it was reported to be infested with "San Jose scale." The shippers applied to me for advice as to how to proceed. I advised them that nothing could be done if the pears contained live scale. (The letter from Hamburg claimed that the inspectors had no microscopes sufficiently powerful to determine if the scales were alive.) I suggested that they cable for samples, which was done, and in due time two good sized cotton sacks of the fruit arrived by express and were immediately submitted to me. A careful inspection of each piece of fruit failed to reveal the presence of scale of any kind, or that any had ever been on the fruit and only the tiny pink marks natural to the skin of the pear was suggestive of scale. I made a report to that effect and Castle Bros. cabled it to Germany. The fruit was released and two carloads more of the same fruit were ordered by cable and were admitted.

THE SAN JOSE SCALE.—We have had trouble by officials in other States holding up shipments of apricots said to be infested with San Jose scale, when it was shot-hole fungus. The scale is not known to attack the apricot tree or fruit. A few years ago this was a very destructive scale, but it met its Nemesis in the form of a tiny four-winged fly, (*Aphelinus fuscipennis*.) You can imagine its size when I inform you that each scale, not larger than the head of a small pin, contains sufficient food to develop a full fledged fly, from the egg, through its maggot form, to the perfect insect. In the San Jose district, where the scale was first introduced, it can hardly be found now, owing to the work of this parasite, aided by predaceous insects. In fact, it is a rare scale now in California. Until Mr. C. L. Marlatt's recent visit to China and Japan its habitat was a mystery. In the former country he found the scale. He also found a lady bird beetle (*Chilocorus similis*) that appeared to be the natural check to the scale in that country and succeeded in introducing a colony in Washington, D. C. On June 26th last, a shipmet of 245 packages of plants arrived per steamship Hong Kong Maru from Shanghai, China. On one of the plants I found a living *Chilocorus similis*, which I sent to Mr. Marlatt,

in Washington, D. C. The plants are intended for the St. Louis Exposition, as a part of the Chinese exhibit. If the trees and plants had been intended for planting in California, a good portion of them would have gone up in smoke, as they were infested with borers, scales, and other pests new to us. This is a case where a Federal law could have stopped those pests at the threshold. As I work under a State law, I could only notify Dr. L. O. Howard, United States Entomologist at Washington, D. C., and he in turn notified the proper authorities at the destination of the plants. I saw the plants taken directly down the plank and loaded for St. Louis.

THE WHITE FLY.—I desire to again call the attention of horticultural commissioners and inspectors, and also to intending planters of citrus trees, to the very great danger of introducing the "white fly" (*Aleyrodes citri*) from Florida. I have reliable information from that State that no portion of it is free from the filthy pest. The "black scale" is a clean insect and spreads slowly as compared with the "white fly." The latter exudes great quantities of honey dew and the infested trees soon become thickly incrustated with black smut. The female "white fly" has two pairs of wings, and can spread more rapidly than the wingless female scales.

UNPROTECTED COUNTIES.—Fruit growers in counties where their supervisors have refused to appoint horticultural commissioners should have the court mandamus them to make such appointments in order to protect the fruit interests of their county and the State at large from new pests and diseases. If one county in a fruit district is permitted to evade the expense of employing three or more officers to guard against the introduction the pests, it practically renders invalid the efforts of others adjoining and more prosperous and progressive communities, and should not be tolerated.

See our law to promote and protect the horticultural interests of the State, approved March 31st, 1897. Section 1, of that Act, makes it obligatory on the part of the supervisors to appoint a commission of horticulture, consisting of three members, when petitioned by twenty-five or more persons, each of whom is a resident freeholder and a possessor of an orchard. Orchard property is taxable, and orchardists should see to it that a commensurate portion of that tax is used for the protection of such property.

HOW TO PROCEED.—In drawing up a petition to be presented to the Board of Supervisors, for the appointment of a county board of horticulture, it should be worded, and the appointments made as required in the statute. Members should organize by electing a chairman and secretary, and thereafter all official business should be transacted as a Board. This is very important, so that there will be no question regarding the legality of the Board's acts, should it be necessary to go into court to enforce the law. All our laws relating to the inspection of orchards and nursery stock are State enactments and are important as far as each State is concerned, but we have no Federal law by which trees and plants imported from foreign countries can be held at port of entry for inspection or fumigation. Several attempts have been made to pass such laws in Congress, but have failed in each instance, through our own objections to certain sections in the bills, whereby the right to inspect nursery stock entering the United States was denied, if it was accompanied by a certificate of inspection signed by an officer appointed by the Government from whence the stock came. As such certificate would release the stock from further inspection, we considered it unsafe to rely upon inspection ability or integrity of foreigners that had no special interest in our welfare.

INTERSTATE LAW.—The Eastern nurserymen appeared to be satisfied with this, and the interstate inspection of the bills, and would not consent to California's demands to be allowed to make her own inspections. The entire Eastern nursery and importing concerns were therefore strenuously opposed to the injection of any clause granting us that authority. The southern California fruit exchange, various chambers of commerce, and boards of trade, took an active part in the efforts to interject such a proviso. It was evident that no such bill could pass and in order to guard our extensive orange industry against the introduction of the disgusting Mexican orange maggot, and our stone and other fruits from the Queensland and other fruit flies, after discussing the question pro and con, we concluded to waive this point and rely upon the police powers our State laws conferred upon us when the trees had passed United States customs authorities. Mr. A. H. Naftzger, and others, concurred with us in this view of the question, but the Eastern interests had by this time withdrawn their support, so the bill did not pass. Captain Daniels, of Riverside, will be a member of the next Congress, and we may be more successful next time.

## THE ORNITHOLOGIST.

## The Kingbird and Bees.

TO THE EDITOR:—I fancy if Prof. Beale had secreted himself near my bee hives during the months of April,

May and June he could have secured ample evidence that the kingbird lives almost entirely on honey bees during that time of the year in this locality at least. Some years ago I hesitated to kill the kingbirds and thought I'd wait until I had ample evidence of their bee-eating habits. This came quite unexpectedly one day. Several of them had been flying about the bee yard and afterwards alighted in a nearby tree. One of them appeared to have "something on his stomach," for presently it cast out of its mouth a wad which, falling upon a board beneath, I examined and found it to be composed of mashed-up bees smeared with honey. Since then I have killed and examined many kingbirds, and I find that they are particularly active at bee killing when the bees are bringing in plenty of honey. The bee, laden with honey, makes a dainty morsel. At other times I have killed kingbirds that had been working on oak trees and found their gizzards stuffed with the fragments of ants. At this time of year they are particularly active among the grasshoppers, which, I have no doubt, they are feeding upon almost exclusively. But how they do slaughter bees in the honey season! While the crop of the kingbird is of a size that will hold only about two or three bees at once, it does seem that they dine frequently enough to average several dozen bees in a day.

I remember reading some years ago an article by a young lady in which she pleaded for the kingbird. One of her statements was that the kingbird only caught the drone bees, anyway, and they could well be spared. My years of observation tell me that they seldom or never catch the drone, but I have my suspicions that they are not above "taking in" the queen in her nuptial flight. It is certainly only a matter of self-defense for the bee men to kill the kingbird, and, I may add, of common business sense also.

OBSERVER.

Redding, Shasta county.

## THE GARDEN.

## Mulching vs. Cultivation.

Mulching, or covering the ground with cut straw, saw dust or other light coarse stuff to retain moisture near the ground surface and reduce evaporation, has often been proposed in this State as a substitute for constant summer cultivation, but it has never come to adoption as a general practice. Readers who like to figure on such things will be interested in the results of some careful experiments made by the Nebraska Experiment Station, an outline of which by Prof. R. A. Emerson has just been issued in a bulletin entitled "Experiments in Mulching Garden Vegetables." It gives the results of tests conducted at the experiment station during the past three years, showing the merits of a straw mulch as compared with cultivation in growing the common garden vegetables.

It was found that straw mulches give better results in normal or rather dry years than in seasons of unusually heavy rainfall and better results on fairly high land than in very low places. That mulches conserve soil moisture as well as thorough cultivation was shown directly by determination of soil moisture in the mulched and cultivated plots of vegetables and indirectly by the vigorous growth of the plants. Mulches cause some vegetables to mature later, while with others no delay was noticed. Grasshoppers sometimes injure mulched vegetables more than cultivated ones, but plant lice and chinch bugs are apparently held in check by mulches. Late spring and early fall frosts injure mulched plants more than cultivated ones, making it inadvisable to mulch very tender vegetables that require the full season for proper development. Early spring vegetables, which require only a few cultivations, can usually be grown more cheaply by cultivation than by mulching. Furthermore, very early mulching, before the ground has become thoroughly warm, is apt to retard the growth of vegetables. Summer and fall vegetables, on the other hand, which require frequent cultivation throughout the season, are grown more cheaply by mulching than cultivation. Moreover, the yield and quality of vegetables are often improved by mulching.

Many vegetables cannot be mulched until they have become well established and the weather has become warm, thus requiring some preliminary cultivation. Such cultivation as is commonly given farm gardens is better for most vegetables in early spring than mulching, but mulching is just as surely better in midsummer than the neglect which is the common thing in farm gardens at that time of year. The experiment station tests have indeed shown mulching to be better in many cases than the most thorough cultivation throughout the summer. Results very favorable to mulching have been secured with cabbage, tomatoes, beans, cucumbers, potatoes and sweet potatoes. In all these cases the yields have been increased on the whole quite decidedly by mulching and the required labor decreased at the same time. Mulched cabbage produced larger heads than cultivated cabbage, and there was less injury from rot. The vigor of tomato plants was decreased by mulching, but the yield of fruit increased. The fruit was also cleaner and less subject to rot.



Mulched cucumbers produced perfect fruits during dry periods when the fruit from the cultivated plants was small and imperfect. The quality of potatoes has not been hurt by mulching except in wet places.

In case of transplanted onions, salsify, beets, carrots, parsnips, peas and melons the results are not decidedly in favor of either of the two methods, both the yields and the required labor being about the same.

From the tests at the experiment station it is thought unwise to mulch drilled onions, lettuce and sweet corn. With drilled onions the stand of plants is usually hurt by mulching. With lettuce it is also difficult to spread the mulch without injury to the stand, and the crop is harvested so early that it is not worth while to mulch. With sweet corn the yields are about the same in a normal season whether mulched or cultivated, but this crop requires so few cultivations that mulching is hardly profitable. In a wet season mulching decreases the yield decidedly.

## HORTICULTURE.

### Shall We Extend Our Citrus Groves?

By N. W. BLANCHARD of Santa Paula at the University Farmers' Institute at Long Beach.

To intelligently answer this question we want to view the past, the present, and forecast the future as well as we can.

What I shall first say bears upon the orange, not the lemon industry.

The following is a statement of the orange and lemon shipments for the past eleven years:

Season.	Lemons. (Cars.)	Carload Shipments.	Southern California Shipments.
1891-92.....		4,016	.....
1892-93.....		4,400	.....
1893-94.....		5,871	.....
1894-95.....		5,022	.....
1895-96.....		7,575	.....
1896-97.....		7,350	.....
1897-98.....		15,840	15,153
1898-99.....		10,875	10,351
1899-00.....	1,447	18,460	17,809
1900-01.....	2,913	24,954	24,096
1901-02.....	1,736	20,387	17,387

The cars of lemons shipped in the last three years were 1447 cars in 1899-00; 2913 cars in 1900-01, and 1736 cars in 1901-02, and included in the shipments respectively for the same years given above. This year's crop will probably reach some 22,000 carloads.

Good judges of the citrus industry are estimating next year's crop of this State at from 30,000 to 35,000 carloads, barring unforeseen accidents. The bulk of this must be sold in the five months beginning with February and ending with June; say 5000 cars per month, an amount per month equal to the whole year's crop of nine years ago. Can the railroads move the crop? Can the fruit be sold at a profit?

Besides this amount of fruit, Florida's crop for next year is estimated at 2,000,000 of boxes, over 6000 carloads. Florida has made another start in the growing of oranges since the great freeze of some years ago, that practically wiped out the industry, and when it raised about as many oranges as California now produces, and the growers have now located their oranges further south in the State and in warmer localities, and are making great strides towards their former large output.

The citrus crop of two years ago, 24,954 cars, less 2913 cars of lemons, was 22,041 cars of oranges, 35% above the previous year's crop, which, itself, was the largest crop ever grown in the State up to that date, 1899-00. The orange grower fared very badly and the profits were so small that it was an unremunerative year to many growers.

A year ago our citrus crop was 20,387 cars, from which take the lemons, 1736 cars, which left 18,651 cars of oranges. The fruit was good and sold at remunerative prices and the year was a profitable one.

This year the fruit was coarse and not sweet in the early part of the season, and the demand, in consequence, was not sufficient to take the shipments at the usual prices, and shipments were held back until the oranges became so ripe that they had to be moved. May shipments of this year were 3405 cars as against May shipments of last year of only 1486 cars, and the consequence was the markets were flooded, were so overstocked that many cars did not bring freight and packing charges.

The lemon industry, notwithstanding the losses of the past by many in growing lemons, has a bright future for some years to come. The land in California suitable for lemon culture is more limited than that for orange culture. I do not know if the lemons do so well in the tropical regions as oranges. Our hot valleys cannot compete in lemon culture with the region that has a more cool and equitable climate, nearer the ocean.

The present amount of lemons grown in the State is about one-third of the amount consumed in the country, and the new method of handling lemons and the successful keeping of them from the fall and winter months until the summer months, when they are most wanted and most valuable, makes the outlook for lemon culture much more promising than that of oranges.

## THE FIELD.

### Mid-Continent Musings on Alfalfa.

Although mid-continent meditations on alfalfa may not be so directly valuable here as in the region of their origin, still it is well to know all that is done and thought about a plant of such superlative value in California. Mr. E. G. Montgomery of the University of Nebraska contributes to the Breeders' Gazette a number of considerations which are little thought of in this State.

SHOULD BE A NATIONAL PLANT.—It seems almost superfluous to add another word on alfalfa after all that has been said in the last few months, yet the topic has not been exhausted, nor will it be until we have learned how to grow alfalfa in every section of our broad land.

The history of its development has been similar in almost every section where it is now successfully grown; usually failure at first, better luck a few years later and good success after a few years more. Of late this progressive improvement has generally been ascribed to a better inoculation of the soil with alfalfa bacteria. This is no doubt true, as their presence is absolutely necessary, but we have somewhat overlooked the fact that any plant must also undergo a natural process of adaptation before doing its best under a new environment.

ANALOGIES.—Fifteen to twenty years ago Turkey red winter wheat was being successfully grown in Kansas, but could not be grown in Nebraska. Since that time, however, winter wheat has gradually spread northward and westward until to-day it is the surest crop we have in more than half the farming sections of Nebraska. It is no doubt much harder than a few years ago, and whenever introduced into a new locality seems to improve in yielding qualities for several years. We are also growing many fine fruits, shrubs and vines which were not easily grown years ago, not from a lack of fertile soil or moisture, or a good climate, but because the varieties of plants themselves had not undergone that imperceptible modification known as acclimatization or adaptation to a new environment.

ALFALFA ADAPTABLE.—A plant to be readily adaptable must show a strong tendency to variation, and this characteristic of alfalfa was noted years ago by careful observers. I have taken the seed of alfalfa gathered from a single plant, and planted each seed separately, 1 foot apart each way, noting the widest variation between many of the individuals in general appearance, manner of growth and almost every characteristic.

That the alfalfa plant is readily affected by climatic conditions is clearly shown by a test conducted at the Nebraska Experiment Station the last few years. In the spring of 1897 alfalfa seed grown in several Western States was secured and sown in adjacent plats. Very uniform stands were secured, but in the severe winter of 1899 that grown from Southern-grown seed, as from Arizona and California, was about half winter-killed, while alfalfa grown from seed produced in the latitude of Kansas or northward suffered much less. Also, during the past winter, in a field sown with alternate strips of Turkistan and common alfalfa, the common alfalfa was badly injured by winter-killing, while the Turkistan came through in fine shape. Two other plats—one sown with seed obtained in Peru, and the other with seed from Samarkand—offer further evidence of the remarkable difference in hardiness between different strains of alfalfa, that from Peru completely winter-killing, while the Samarkand was not injured.

The great success with which alfalfa has been sown in Nebraska in recent years is traceable to this quality of ready adaptation, which has given us an alfalfa in a few generations, grown in our latitude and under similar conditions, that grows readily and withstands all ordinary winters, returning year after year large yields of hay.

CONDITIONS ENCOUNTERED.—In taking alfalfa from the West to the Central States the plant encounters many new conditions. The soils there are heavier and not easily aerated, especially when wet, and often slightly acid, conditions not favorable for the development of alfalfa bacteria, while in the West we have a lighter, more porous soil, easily aerated and slightly alkaline, furnishing a most favorable environment for the development of the plant and its bacteria. Another factor, which may have been something of a blessing in disguise to our Western farmer, has been our drifting dust storms, which carry and mix particles of dust over wide tracts of country, doubtless spreading bacteria at the same time.

No doubt bacteria have some powers of adaptation as well as plants, and it is only a matter of time when we may expect to have bacteria, as well as strains of the plant, which will thrive under the conditions prevailing on all our farms, whether in the heavy prairie soils of the Central States, the clays and cold winters of Northern States or sandy soils of the South. It is largely a question of perseverance by farmers and adaptation by the plant.

I would encourage everyone to try growing alfalfa, no matter where he must obtain the seed, but to secure, if possible, seed grown under conditions similar to his own.

## THE DAIRY.

### What is Buttermaking Worth?

This is a question which both patrons and creamery managers speculate upon a good deal, and, like many other important questions, the answer must depend upon circumstances. However, the speculation will go on in the effort to reach the true answer. The latest contribution to the discussion which we have seen was recently contributed to a meeting of the Wisconsin Buttermakers' Convention, by Mr. C. J. Dodge, and we reproduce parts of it.

THE QUESTION.—At what price per pound can butter be economically made at creameries? There are so many factors to be considered in the question of the cost of making that a good many creamery men are apt to lose sight of a part of them and laboring under the impression that they have considered them all are surprised at the end of the year, or of a series of years, to find their cash balance on the wrong side of the ledger. Creamery men are human, the same as the farmers are. They often hate figuring and calculating and planning, but like an active, do-something life, as the farmer hates book-keeping, but enjoys the active life he lives.

FACTORS.—Now it seems to me that the creamery man has an absolute duty to himself and to his patrons in the matter of the bookkeeping part. He must have a complete and accurate account of each day's receipts of milk, the amount of butter made from it, the number and size of packages made each day, the yield each day, the full account of the retail butter, and by full I mean the name of the party sold to, price and any facts that afterward may be of service in settling a dispute that might otherwise arise. I think it always best to close this report with a record showing the part package left over—as twelve pounds solids and twenty prints. My reason for this latter entry is for the purpose of proving up the work the following day. A man as busy as a creamery man with forty or more patrons after him, is liable to forget to make a record now and then. If now he has the closing record of the previous day, he can prove the accuracy of his work, and if he has a shortage can think back and locate the man that got the butter that is not recorded. I have found this so valuable in my own experience that I have adopted it in all my creameries, having the weekly reports show the daily details.

All this may seem out of line with my subject perhaps, but it is not, for first of all the creamery man must know absolutely what his month's butter is going to bring before he can take the first step towards making his dividend. When he has that point established, he must first take out the making, and our question deals directly with this—what shall it be?

EXPENSES.—Now in all ordinary creameries, there are expenses that are constant, whatever may be the run. Taxes, rent, original cost, and interest on same, to a certain extent fuel, help. In other words, so far as these are concerned, 1000 or 6000 pounds daily is nearly the same as to expenses. This rule does not apply to supplies of course. Then there is the question of cost of fuel, that is a varying factor in different places; some must burn \$6 coal, some \$7, some \$3 coal; some must pay heavy taxes, some light; some are running a creamery worth \$1000, some worth \$5000, and the \$1000 building may be doing the business, and so it goes.

THE DEAD LINE.—I have made a careful study of this question with the idea of doing full justice to all, and after twelve years experience I must say that the creamery man who attempts to make up for less than 3½ cents per pound, where the runs will not average 4000 pounds daily the year around, is taking grave chances. It is my opinion that most of the failures in the creamery business are due to haphazard work and not getting out the making, and, I tell you brother creamery men, that it is not for your protection alone that you do this, but for the interest of your patrons as well. The surest way to kill the creamery industry in a community is to have the creamery fail.

THE ACTUAL COST.—Perhaps some of you will say this does not help us in determining the absolute cost of making a pound of butter. The cost of making is about as hard to figure out. I think, however, that assuming as a basis \$50 help, \$4 coal and \$2500 investment, 10% interest on the same, the making can be safely and justly made on the basis of this: The factory must always pay the expenses of running when running less than 4000 pounds per day, the creamery man to get 3½ cents per pound when running 4000 pounds per day, to 2½ cents when running 9000 pounds, taking off 1 mill for each 500 pounds increase in milk. With extreme prices of fuel the difference between the actual cost and \$4 price should be stood by the dividend. My reason for this is that it is an extreme price, and creamery men, in making their calculations, could not foresee the heavy tax upon them, and it is not just to ask them to stand it.

There is another element in the cost of making that I have not mentioned. It is in the question of yields. Some factories have an average yearly churn yield as low as 4.20, others run as high 4.80. It will at once be seen that here is an element or factor



that must enter largely into the cost of making. Then, too, there is the question of the ice and its cost. To some creameries this is a very small item; to others, it is a very heavy one. Then some creameries can pump their water from a shallow well, or perhaps may even have a flowing well, while others may have to pump it 100 or 200 feet at an expense as heavy as the running of a separator. Then, again, one creamery is right at the station and at no expense for hauling to speak of. Another creamery at another point may find this a very heavy and constant tax on the cost of making.

While I have suggested some of the more prominent factors that enter into the cost of making, I have no doubt that others will come to mind and others may add their experiences or ideas along this line.

#### Live Stock and the Dairy.

By LEROY ANDERSON, Director of the California Polytechnic School, San Luis Obispo, at the University Farmers' Institute at Long Beach.

In April last the secretary of the Guernsey Cattle Club reported a record for butter production which stands as the highest official record of a two-year old heifer which has yet been made. The notable animal is Dolly Bloom, owned by Mr. F. L. Ames of Boston. During the year ending March 25, 1903, she produced 453.86 pounds of butter fat which is equivalent to 529.5 pounds of butter.

In December, 1901, a six-year old Holstein heifer, Mercedes Julip's Pietertje, produced in seven days 23.487 pounds of butter fat, which is equivalent to 27 pounds and 6.4 ounces of butter, when calculated on the same basis as the record of Dolly Bloom. This is the highest official weekly record for butter production to-day.

CALIFORNIA RECORDS.—In our own southern California we have some records of which we may be proud. The president of the Southern California Jersey Cattle Club has a beautiful cow, Gold Drop's Maud, which in four years produced 29,596 pounds of milk and 2035.63 pounds of butter, which is practically an average of 509 pounds of butter per year.

A beautiful little Jersey, of which any man might be proud, is Rocky's Pogis Pet. She is reported by her owner, Mr. Moore, to have given him a net income profit in three years of \$260.

These figures are an inspiration to any one who is engaged in the live stock business. They tell us that there are heights to be reached and rolls of honor to be gained for any one who will put brains and energy into his work of stock raising. It is records like these that brighten the path of daily toil and give us a gleam of hope for our own future in the vocation we have chosen. Moreover, the most beautiful feature of it all is that to bring our own stock to a higher degree of production and proficiency we have only to study and follow closely the laws of nature—than which there can be no more enlightening an ennobling occupation.

We look with wonder and astonishment upon the development of our manufacturing industries resulting from new and marvelous inventions. Your entire section of country is to-day threaded by electric railroads where a few years ago you found yourselves contented with a horse and buggy. Over a wire you talk with your friends in Los Angeles and San Francisco as freely as with your neighbor at your side; and now we are even talking miles through the air—and it is not "hot air" either. How are these wonderful and vast things accomplished? Only by a careful application of nature's laws after a thorough study of her ways of working.

As you go about amongst your cattle and sheep and swine and poultry, do you ever think that you are in charge of forces of nature that are as intricate in their details and more complicated in their mechanism than those instruments which help us to communicate with a far-away friend or carry us quickly to that friend? What can be more intricate than the system of nerves and cells and blood vessels by which the cow secretes the milk which gives nourishment to all mankind. How that secretion varies in composition corresponding to influences from within and without and as yet comparatively obscure to the eye of man! It was my good fortune to conduct that most interesting test of Rocky's Pogis Pet at Santa Ana in October, 1902, at the beginning of which her milk contained 11.4% of fat. As I now recall, the succeeding milking reached something like 6% of fat. This test is one of the best illustrations of how meagre is our exact knowledge of milk secretion.

It is unfortunately true that little consideration need be given to the intricacy of organic life in our domestic animals when their improvement is not the primal object. To such as are not familiar with the live stock of the country it may seem impossible that any man should keep stock and not be continually looking toward their improvement. But it does not require many days' travel through dairy and range sections to make it very evident that little intelligent thought is spent in this direction. This is why the average yield of butter per head is kept down to 150 pounds per year. The natural pasturage, wet and dry, a little dry hay, and the cow may give large or small returns as her constitution permits.

DEVELOPMENT.—But the breeds of live stock of

which you and I are so proud were not reared in this fashion. We have no more interesting history in nature's development than that of the Shorthorn cattle and how they have been raised from a scrawny, patchy, bony beasts to a place amongst the most shapely of our domestic animals. When we read of the first Shorthorns and how Collins and Booth and Bates and Cruickshank and other energetic men labored and studied over them to remove their imperfections, we cannot help admiring these men for their zeal and foresight. We must also admit that they had a remarkable insight into the fundamental laws by which the animal kingdom is improved. The Shorthorn is not yet a perfect animal, but when we compare him with his ancestor of a century and more ago we see an advancement that is as great as it is lasting.

I once saw a picture of a Jersey cow of about 1830 and I wish I might describe her to you. You would not recognize her as the same breed that we are now so proud to call Jerseys. She resembled a zebu in form more than she did her present day descendants. There must have been much careful study upon the part of her admirers, for the first Jersey cattle that were brought to this country thirty years later were imported because of their beautiful fawn-like appearance, which entitled them to a place on rich men's lawns as a household pet. We still find them petable but their usefulness and importance as a producer of wealth far outweigh their once importance place as a thing of beauty. Attention to feeding and breeding is making the Jersey a larger and stronger animal, more able to bear her burden of increased productiveness, and only the eye of the far seeing breeder can foretell what the Jersey of a half a century is to be.

One hundred and twenty-five years ago the county of Ayr in Scotland is said to have possessed a most ungainly breed of cattle, and its unsightly form was not redeemed by any large degree of milk production. The introduction and intermixing of fresh blood from outside and the preservation of consequent favorable results by careful breeding had the usual effect. To-day the Ayrshire cattle are a favorite in Canada and some of the Eastern States and a few of them have come to stay in California. There is no animal more comely nor more delightful to look upon than the Ayrshire. There is no cow giving a more nutritious milk though there are some which give larger and richer quantities.

And so I might go on for hours relating the changes in form and usefulness that our present domestic friends have passed through during a few generations of man. The story would not be confined to cattle alone. The horse presents a history that is to many people even more replete with interest and valuable scientific deductions.

OTHER STOCK.—Should you follow the development of the sheep, the first name of importance that would meet your eye would be that of Thomas Bakewell, the father of improvement of live stock in England and the world. It was he who taught us that in-breeding was not only a safe, but an essential practice in the origination of new breeds and the formation of useful breeds from seemingly useless native species. Your attention would be held no less by his work in improving the Berkshire pig than with the sheep. The much despised pig affords not the least important instance of what brains and energy can do in moulding the form of animals. Were I to attempt to picture all the transformations that poultry have passed through, there would be such an array of color and feathers that I fear you would refuse to fly to the heights I should point out and even accuse me of claiming too big a victory of man over the fowls of the air. It takes only a few years to make a white fowl out of a black one, and a ringed, streaked, speckled fowl out of a white one.

The end is not yet. When we thus survey the past and learn what has been done to increase the comeliness and usefulness of the domestic animals we need have no fear that the limit of improvement has been reached. Those of us who are fortunate enough to be close to nature have no doubt as to the future of the breeds of live stock in which we are most interested. And our faith, therefore, goes out to include the whole animal kingdom which man has taken upon himself to improve. A few minutes ago I spoke of the advancement of the Shorthorn as a lasting out. This is true of any improved breed only as the conditions and environment are perpetuated. I have seen three months of poor feed and care change a fat, round, thoroughbred pig to a thing so like the wild hog that you would swear that it could not have come from well-bred stock. What is true of the pig is true of all live stock. Constant care and watchfulness is necessary to keep up the onward march of improvement.

NEAR TO NATURE.—And what is the reward of all this labor and care and thought? The reward is indicated in the records shown you at the beginning. You shall have the pleasure of possessing better animals than your neighbor. Your treasure shall be increased because of the increased usefulness and productiveness of your flocks and herds. You shall stand among the inventors and benefactors of our people because you have done something toward mastering nature's laws and harnessing nature's forces. Who does not envy the place of Luther Bur-

bank in the esteem of man and in his closeness to nature? And above all, by this close communion with nature you shall become a broader and a nobler being.

The dairy side of my subject has given way entirely to the live stock. Yet the same principle runs through one as the other. Everywhere it is nature and her elements working under the control of man toward the development of some product. The dairyman who best knows chemistry, physics and bacteriology is sure to make the best butter and cheese. I often wonder which is the more enjoyable, to care for a cow in the way to make her most comfortable and most productive, or to stand over a cheese vat and so control nature's forces at work in the milk as to turn out a cheese that will please the taste and best nourish the body. Both have their pleasures and both require a large amount of thought and study.

I did not come before you to tell you something new—to try to teach you some fresh facts. My mission has been to bring a word of cheer and hopefulness to the man who is spending his physical energy in the dairy and ranch—to lay before him, as I have previously tried to do, some of the pleasures and joys of country life, and to show everyone that agriculture is not all drudgery. If the worn-out city man wants to get rest, let him come back to nature by living with and caring for a few horses, cows, pigs or chickens. I will count my journey to you worth while if I have pointed out to only a few how they may get a larger enjoyment out of life by a deeper study of the ways of nature.

#### THE SUGAR BEET.

##### Drying Beets in Germany.

Drying sugar beets to prolong the working season at the factories was proposed many years ago in this State and some importance was attached to the suggestion. The undertaking failed chiefly because the sun-dried beets were allowed to ferment. Germany is drying sugar beets for stock feed, which is of less importance in this State because our beets seldom freeze in the ground and can be lifted fresh for stock feeding all winter. Still the German undertaking is important in connection with a wide understanding of the beet industry.

Mr. George H. Murphy, Consular Clerk at Frankfurt, writes to the Department of Commerce and Labor as follows: According to an article in the Frankfurter Zeitung of June 29, 1903, in the drying of sugar beets—a process which even under the most unfavorable conditions has proved profitable—German agriculture has found a means to prevent the overproduction of sugar.

According to the Blaetter fuer Zuckerruebenbau, the Dingelbe Sugar Factory, near Hildesheim, in the province of Hanover, dried 3,300,000 pounds of beets in March, 1901, and, from the crop of 1902, the frozen beets from thirty-eight acres of land by means of a Petry & Hecking drum apparatus. One centner (110 pounds) of dried beets was produced from 495 pounds of chopped raw beets. The dried beets were sold at a fixed price of \$1.19 per 110 pounds. The cost of drying was 33 cents, so that at \$1.19 per centner of dried beets each centner of raw material brought 19 cents. Other experimenters have received \$1.43, which means 24 cents for each centner of raw beets. Professor Lehmann, in Goettingen, claims, however, that in comparison with wheat bran and maize the nutritive value of dried beets is \$1.74, or 31 cents per centner of raw beets used. Although \$1.74 has not yet been obtained for the article, those farmers who, instead of selling their dried beets, use them for feed practically obtain this price in full through not using the equivalent amount of dearer materials. To this price of 31 cents, moreover, must be added the value of the leaves and heads, which, when used as green fodder, are estimated to be worth \$9.52 per 0.63 acre. The surplus of leaves and heads not used as green feed may also be dried.

At Dingelbe no difficulty whatever has been encountered in keeping dried beets which had been promptly sacked and stored. As soon as a price can be obtained for dried beets which is equivalent to that fixed for other feed materials, they will probably at once become an important article of trade. As its nutritive value makes it a suitable substitute for maize, the importation of the latter can be correspondingly lessened. Thus, in future, German farmers can, at times when sugar prices are low, utilize their crops more profitably by drying the beets for use as cattle feed.

THERE is on exhibition in the Chamber of Commerce in Los Angeles a glass jar of honey in the comb, just as it was deposited there by the bees. The producer, Joseph Moffatt, who has an apiary in the San Fernando valley, so fixed the jar that the bees were induced to accept it for a hive and proceeded to fill it with as fine a lot of honey as one often sees. Through the glass jar the combs, with all their passageways and cells filled with honey, can be clearly seen. It is a unique and interesting exhibit.—Pomona Progress.



## Agricultural Review.

### ALAMEDA.

**TOMATO CROP MAY BE SHORT.**—A San Leandro dispatch states that considerable apprehension is felt by the tomato growers of this section over the outlook for the tomato crop. There is every indication that the crop will not be half as large as that of last year, and in many places it will be a total failure. The warm winds of a few weeks ago destroyed the first settings in many places, and the growers have based their hopes on a good second setting. The lack of moisture, however, will cause the plants to grow but slowly and many will wither and die.

### BUTTE.

**BETTER CROP THAN EXPECTED.**—Gridley Herald: As the farmers finish harvesting, the reports of the yield of wheat and barley grow better. Nearly every farmer has more grain than he thought he had when he began to cut the standing crop. Grain is coming into the warehouse here at the rate of 2000 to 3000 sacks per day.

### COLUSA.

**PRICE FOR BARLEY CROP.**—Sun: The crop of barley raised by Messrs. Coughlan, Abbey, Ossenbriggan and Kaefsbeck, being about 26,000 sacks, has been purchased by J. M. Dixon, local buyer for Balfour, Guthrie & Co., the price being \$1.13 clear to sellers for the entire lot.

### CONTRA COSTA.

**HAY HARVEST.**—Martinez Paper: Scarcity in the history of Contra Costa county has there been such heavy buying as has been the case this season. Practically all the hay in the San Ramon valley has been bought up. As high as \$13 per ton has been given for hay in this county lately and \$10 per ton is a common figure.

### FRESNO.

**GOOD WHEAT CROP.**—Hanford Sentinel: Frank Harris, the ditch building contractor, of Wheatville, says the harvesting of grain in that section is about half completed and that the crop is very good on an average. He has about 2500 acres of grain, part of which has already been harvested and is averaging about five sacks to the acre. This does not seem very good, but half of that was volunteer, not having cost Mr. Harris anything for seeding or cultivating. A great deal of the volunteer grain is making ten or twelve sacks per acre.

### GLENN.

**ANOTHER BIG RANCH SOLD FOR SUBDIVISION.**—Willows Journal: The Boggs ranch has been sold to a syndicate for the purpose of colonization. The price to be paid is \$30 per acre for the 10,000 acres, which is twice what it would have sold for five years ago.

### INYO.

**THE HONEY CROP.**—Independent: The Inyo bee keepers will market but one-half of their usual honey crop this season.

### KINGS.

**RAVAGES OF GRASSHOPPERS.**—Hanford Sentinel: C. F. Kendail was down southwest of Lemoore, near the lower Kings river bridge, last week, and states that on one of the ranches there, being worked by Ephram Eisenhouser, the grasshoppers have raided a 250-acre field of alfalfa and have literally eaten up fully 200 acres of it. Mr. Eisenhouser wants to buy all the turkeys he can, and if he can get enough to eat all the hoppers he expects to have a band of fine, fat birds to turn off Thanksgiving time.

**INCREASED CORN ACREAGE.**—A ride about the country in the vicinity of Hanford reveals a larger acreage of Indian corn planted in that locality this season than ever before. The writer, driving with an Illinois visitor, passed field after field of the growing corn, and when we told him that the corn is the second crop for this year on the same land he marvelled much. Another thing that interested him was that alongside of corn in tassel was another field where the crop was only a few inches high.

### LOS ANGELES.

**CANNING OLIVES.**—Pomona Times: A fruit preserving firm of Ontario successfully canned olives last year. Competent judges declare that the olives as canned at Ontario retain their rich flavor and are cured so as to keep—perhaps more than a year. There is talk of trying the experiment at the Pomona cannery on a large scale.

**APRICOT PACK.**—The cannery of G. H. Waters has worked up 250 tons of apricots, 150 of which have been dried.

### ORANGE.

**DRIED APRICOTS.**—Santa Ana Blade: "I've made a pretty thorough canvass of the apricot situation within the last few

days," said E. A. White, "and during my twelve years' experience I never saw the equal of the present outlook. For size, color and general appearance, the present dried apricot crop beats anything I ever saw anywhere, and the small thumbnail and dark fruit which has in years past reduced the value of Orange county dried apricots, is conspicuously absent this season. Owing to the fine condition of the present crop, I think the growers will realize a price nearer the actual value of the fruit than has been the custom heretofore. The future crops of dried apricots can be brought up to the standard of the present crop by proper pruning, thinning of the green fruit and care in preparing the dried fruit for market. I can't say with any degree of accuracy what the probable output will be, but think there will be about 60% of last year's crop—maybe between thirty and thirty-five cars."

**BIG GRAIN YIELD.**—Santa Ana Blade: As a starter for stories of big yields of grain this season, it is reported that Angie & Call, on the San Joaquin ranch, harvested 1817 sacks of barley from sixty acres, or about 30½ sacks to the acre. William Jeffreys, another San Joaquin rancher, goes this record one better and gives the figures from 101 acres as 31½ sacks to the acre.

**PICKING VALENCIAS.**—J. D. Thomas, local representative of the Southern California Citrus Union, reports the commencement of work in the harvesting of the crop of late Valencia oranges in and around Santa Ana. Mr. Thomas says the crop is larger this year than usual, the quality of the fruit is up to the standard and prices are very satisfactory to the growers. Some growers in Tustin have sold their crops to independent buyers at the rate of \$1.40 per box on the trees.

**PEANUT CROP.**—Anahelm Gazette: The crop of peanuts in Orange county this year is estimated at from 8000 to 10,000 sacks—about the same as last year.

### RIVERSIDE.

**GOOD GRAIN CROP.**—Hemet News: Some pure wheat land is producing fifteen sacks to the acre, and as much as twenty sacks to the acre is being realized on the best irrigated wheat fields at Ethnash. Big fields of barley are yielding twelve to twenty-five sacks to the acre. Full sacks of good wheat weigh about 140 pounds each and Sonora wheat up to 150 pounds or more. Most of the barley weighs 110 to 120 pounds to the sack.

### SAN DIEGO.

**CROP BRINGS PRICE OF LAND.**—Union: The grain harvest in El Cajon valley is about completed. As evidence that it is a fine one, it is only necessary to state that it was large enough in some fields to be equivalent, in money value, to \$20 per acre, which, in many instances, is as much as the land is being sold for.

**BIG YIELD OF BARLEY.**—Escondido Advocate: H. C. Hays has had the crop of barley on the Putnam land threshed, and reports a yield of twenty-five sacks to the acre. This is the largest yield so far reported this season.

### SAN JOAQUIN.

**FINE APRICOTS AND PEACHES.**—Stockton Independent: The weather lately has been particularly favorable to peaches, and should it continue the peach standard this season will be excellent. It is estimated that fully fifty cars of peaches will be shipped from Lodi and Acampo. Some of the canneries are running full blast on apricots. The crop is light, but the quality is the best ever known. The price paid ranges from \$30 to \$40. Fruit for drying is selling for \$25 a ton. The canners have secured the bulk of the crop. No complaint of shortage of labor is made anywhere and in some places the demand exceeds the supply.

**A LARGE VINEYARD.**—Lodi Sentinel: The Barnhart tract, bordering the town on the southeast, is to be set out to vines. Four men have taken the contract. They will set out, care for and cultivate the vines for three years, at the end of which time they will be given a deed to two-fifths of the property. The land belongs to Daisy Barnhart. The tract contains 403 acres, and is now leased to the Kettelman Bros., who have a crop of barley on it. Zinfandels will be set out, the vines to be located 8 feet apart.

### SANTA CLARA.

**THE FRUIT SITUATION.**—San Jose Herald: The fruit situation in the vicinity of Los Gatos is thus summarized by a local canner: "Our apricots are harvested from this vicinity for this season and even the driers have finished their work. Washington plums and Crawford peaches are now maturing. Posters will follow in a few days. Peaches are of excellent size and quality. The weather has been all that could be desired for the ripening of fruits of all varieties. Pears are being

picked, but this crop is a disappointment, most of the fruit being more or less touched with scab or blemish, and while it can be utilized for canning if the blemish is only skin deep, it is seldom that our pears have presented such an appearance. The mountain pears, we understand, are in a great many instances deformed and misshapen by fungus and scab. There will not be to exceed 30% of a pear crop in this vicinity. Prunes are looking well and increasing in size daily. The guessers are at work, but it is very hard even now to estimate the crop in this vicinity. We should not be surprised to see 90% of an average crop harvested, and of much better size than usual."

**CO-OPERATION PROPOSED.**—The growers in the vicinity of Los Gatos, particularly at Skyland and the Summit, are beginning to talk co-operation. A meeting was held on July 28th, at which Mr. Harvey, the State Grange Organizer, made an address and aroused considerable enthusiasm. Another meeting was arranged for August 4th at the Summit Opera House, where it was hoped a permanent organization would be consummated. There are a great many growers in the vicinity of Los Gatos who are ready to join hands in a movement of this kind.

### SANTA CRUZ.

**GOOD RESULTS FROM SPRAYING.**—Watsonville Pajaronian: Frank Mauk reports that he has sprayed all of his orchard four times and a portion of it five times. In going over fifty-six trees very carefully and removing therefrom all of the wormy apples, he found only 5 pounds of such fruit—a remarkably fine showing in favor of judicious spraying. Considering the fact that apples are of such size at present that it takes but a few to weigh a pound, the percentage of loss is almost too small to compute in figures. In several of the apples affected by worms, the pest had just entered the skin of the fruit and there perished.

**APRICOTS NEVER FINER.**—Contrary to expectations earlier in the season, C. O. Stillman's crop of apricots will be about as heavy as last year and the quality of the fruit is first class. Mr. Stillman commenced drying 'cots this week and estimates his crop at 150 tons of green fruit or about 30 tons of marketable dried fruit. He states that he has never seen apricots go onto the trays in finer shape than they do this season. Aside from a slight roughness in places on some of the skins, the Pajaro Valley apricot was never nicer than it is this year.

**APPLES LOOKING WELL.**—Bellefour and Newton Pippin apples in Pajaro valley give promise at present of being of large size and excellent quality. Such apples, with the codlin moth under control, will bring fancy prices, and that is the kind of stock local orchardists expect to send to market this fall. It has been estimated that 30,000 boxes of good apples will be harvested from the 105-acre orchard on the Murphy ranch this season.

### SOLANO.

**LARGE SALES OF PEARS.**—Suisun Republican: Owners of pear orchards in Suisun valley had an inning last Wednesday. Buyers were out early offering \$1 a box for pears, and before the end of the day somewhere between 150,000 and 175,000 boxes had been sold. Colonel Robbins sold his entire crop of pears from his Suisun Valley orchards, and this means the delivery at the Suisun depot of between 50,000 and 75,000 boxes. A number of growers had sold previous to Wednesday, while others are holding for a higher price.

### SONOMA.

**CO-OPERATIVE CANNERY IN OPERATION.**—Healdsburg Tribune: The Healdsburg Fruit Association's cannery is engaged on Crawford peaches and Green Gage plums. The association is composed of resident fruit growers and promises to be a success from the start. The cannery and packing house is under the management of E. B. Snook, who has had much experience in the business.

**PRICES PAID BY CANNERS.**—Healdsburg Sun: As near as we can learn, prices offered for canning fruit are from \$15 per ton for Crawford peaches to \$30 for Phillips clings. Bartlett pears are quoted from \$20 to \$25 per ton and plums about \$15 per ton.

**FRUIT NOTES.**—Santa Rosa Farmer: One buyer claims to have bought most of the Bartlett pears near Santa Rosa and has bought something like 300 tons of clingstone peaches for \$22.50 for a Napa firm.—The berry association, composed of 80% of the growers and buying 10% more of the crop, has brought prices up from \$30 to \$45 a ton for blackberries, while raspberries bring \$110.—Victor Durand has not twenty-five vines missing out of five acres of rooted vines that he planted in the spring. He has 10 acres of two-year-old, 15 acres of three-year-old

vines and 4 acres of Missions, planted forty years ago. All of his vineyard has made a good thrifty growth and he expects from 50 to 60 tons of grapes.

### STANISLAUS.

**LARGE AREA TO BE PLANTED TO GRAPES.**—Modesto Herald: It is stated that 250 acres in one body will be set out to grapes next season in the Ceres quarter; H. F. Geer of Turlock proposes to set out 160 acres, and Walter Garrison is rooting cuttings for 50 acres or more. Vineyards at Atwater are yielding \$25 per acre this season from one-year-old vines. After three years old the vines will pay from \$100 to \$300 per acre net, according to variety, the higher price for Tokay and Empress table grapes. These require correspondingly greater outlay, of course, for picking, packing and marketing. Cuttings are now being set out direct, particularly where water is available. A grower who recently inspected an embryo vineyard of this description in the Atwater quarter stated that 95% of the vines were flourishing.

### SUTTER.

**WAREHOUSE RECEIPTS OF GRAIN.**—Yuba City Farmer: The crop is now going into the warehouses at a lively rate, the receipts there being about 2500 sacks per day. In spite of the short crop, the farmers will receive fully as much for their product, owing to the price being higher at this season than for many years.

**CANNERIES RUNNING FULL-HANDED.**—Independent: The California Canners' Association and the Sutter Preserving Co. are running full-handed now on cling peaches. Several hundred hands are employed and all earning good wages. The run of the California Canners' plant will last until the latter part of September. That of the Sutter Preserving Co. will extend to the latter part of November.

**RICH TULE LAND.**—T. J. Dunham, who farms a large tract of tule land near Kirsksville, is realizing big returns. On the land that was from 3 to 7 feet under water last winter he is now producing a crop of Kentucky Wonder string beans that will yield him at least three tons to the acre. These beans he sells in the market at 3 cents per pound, or about 2 cents net. This makes a total of \$40 per ton net, or \$120 per acre. He is gathering large, luscious Japanese plums from trees that were 3 feet deep in water last winter.

### TEHAMA.

**FRUIT EVAPORATOR OF 20,000 POUNDS CAPACITY.**—A Corning dispatch states that the Maywood Fruit Evaporating Co., recently formed there, is building its evaporator, which will have a capacity of 20,000 pounds per day. The company consists of W. N. Woodson, B. H. Brubaker, G. G. Earl and W. A. Hawley, all of whom are prune growers in Maywood Colony.

**GOOD PRICE FOR APRICOTS.**—Corning New Era: W. F. Lane, W. N. Woodson and the Fruit Association sold their apricots to James Feeley of Red Bluff for 7 cents per pound, a good price for dried apricots, and better than the same money later on, as there will be some shrinkage in weight as the fruit becomes more thoroughly dried.

### TULARE.

**BEES HAVING A HARD TIME.**—Hanford Journal: C. K. Decker, the Angiola bee man, says the bees are not storing honey very fast, not for lack of industry on their part, but the nectar is in the blossom only in small quantities, owing to the cool weather, and, again, the grasshoppers are quite plentiful and cut the blossoms off of the alfalfa.

### YOLO.

**WOODLAND CREAMERY.**—The report of the secretary of the Woodland Creamery, a co-operative association, covering all statistics since its organization, shows an average price of 22½ cents per pound for butter for the last five years. The patrons pay 3 cents per pound for manufacturing, thus leaving 19½ cents as the price paid them for above period. The report also shows that the average has been 4½ pounds of butter to every 100 pounds of milk received.

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## THE HOME CIRCLE.

## A Sunshiny Woman.

She always seems so pleasant that  
I often wonder what good fairy,  
By magic of some wand's fiat,  
Decreed her moods and manners airy;  
And smiles—I marvel much thereof  
When care's great cross is hers to  
carry.  
Yet, be dull grief or gladness present,  
She hath the art of seeming pleasant.

To beauty slight would be her claim,  
Likewise to grace and lofty station,  
And, though she bears an honored name,  
Her heart's ne'er felt that quick pulsa-  
tion  
That comes with picking fruits of fame  
And earning critics' sweet oblation.  
Her placid life hath known no wimple,  
Yet smiles keep e'er her cheeks a-dimple.

I think the fates or fairies must  
Have, when with graces they endowed  
her,  
Betbought how beauty flies as dust  
And fame doth crumble into powder,  
While smiles live on, and, being just,  
This greater boon than all allowed  
her—  
A grace most sweet in queen or peasant,  
The one of always being pleasant!

—Roy Farrell Greene, in the House-  
keeper.

## The Love That Lives.

## I.

He wondered if she still cared. He had gone West ten years ago because he was too poor to offer her anything he thought it worth a woman's while to accept. He had learned to live without a thought of her. Now he was at home on business. He had run down to the beach for a breath of sweet, salt air.

He was watching her as she, all unconscious of his presence, quietly ate her supper in a corner of the dining-room farthest from him. It had been a long time since he had thought of her, yet she came back naturally enough to her place now that he sat there looking at her.

There was a bowl of loose, freshly-cut roses and gardenias on her table. The sea breeze brought him little whiffs of their fragrance. He remembered her love for them. Three other women sat at the table with her. He knew they were there, but he saw only her.

She laughed now and then, and he watched for the sparkle in her eyes, the dimple in her cheek and the gleam of her milk-white teeth. Each of her many charms were intensified. She had ripened up beautifully. He missed a certain soft, pretty shyness that used to fold her away from him as its mossy calyx screens a rosebud. It was this little barricade of reserve that had kept him silent and at a distance in the old days. It was gone now. He felt that she would understand at once how it was with him. He was not afraid of the air of womanly pride that had come to her.

Sue fed herself daintily as a bird. She seemed wonderfully at her ease, and altogether sweet and wholesome. Her blue eyes were clear and steadfast. It rested him to look at her. She was the one woman in the world. It was curious that he had rather lost sight of her lately. Now her personality stood out clear and sweet from the shadows of his forgetfulness like a star when there is a rift in the clouds.

The simple old life had been good for her, he thought. While he had been toiling and delving, wasting his youth, almost losing his soul, she had been living quietly at home in the old house up in the city, coming out in the old way each summer for a month by the sea. He felt resentful and ill-used. For he might have been with her. Instead of the gold he had been heaping up he might have had her.

The dainty supper cooled before him. The waiter behind his chair fidgeted and asked questions, anxiously. People glanced curiously at the big, sunburnt, queer mannered man from the West. A party of young people behind him laughed and talked merrily. The four women at the table in the corner chatted pleasantly. There was all the cheerful hotel dining-room clatter. But

he saw only one face, with its crown of dusky hair and eyes of blue; heard only one low, clear voice.

He felt injured when he saw how quietly contented she was. There was no shadow of regret in her eyes, no line of grief on her face. She must feel very sure of him, certainly; very positive that he would come for her some day! And yet he had said no word of all this when he went away. He thought that she ought to know intuitively that he was near her. He had heard of such things. But she smiled brightly into the face of one of the other women.

He got up and went out of doors. He was used to plenty of air. The place was stifling. He wondered what she would say when she saw him. He ought to have written, of course. But then—why, well he hadn't written. His sunburnt face flushed hotly.

The sun was setting. The lilac walk was quite dim now. It lay under the dining-room windows and her table was near the last one; so he drifted that way. He could hear her laughing. How prettily she did it. He remembered that most women laugh shrilly. Now he could see her. She was standing, the bowl of flowers in her hand. "I think I shall give each one of you part of my flowers. Charlie sent them out to me. He must love me very dearly, don't you think?" And again she laughed softly.

The man outside the window held his chin in one hand, reflectively, took his under lip between his teeth and walked slowly to the end of the path. "Charlie," he said, wonderingly.

A friendly handclap on his shoulder roused him. "Dick Allen, home from the West, as I live! I thought I knew the turn of that shoulder in the dining-room."

"Yes. Beastly place."

"The West?"

"The dining-room."

"When you aren't hungry, yes. Well, well, old man, this is a treat. I am amazingly glad to see you."

"Thanks—eh—Osborn? Yes, you are Osborn."

"The same—Charlie Osborn, at your service, sir. Dick, you are gazing dejectedly upon the happiest man in the world!"

"Inherited a fortune?"

"Why, man alive, I'm getting married to-night. Swell affair at old St. John's, over town, you know. Party out for a last seaside frolic and all that. Going in on a special train, you know. Join us, old man, come in at the eleventh hour, as it were, and share the fun."

The man from the West brightened. "Why, certainly. Fact is, you know, Osborn, I've come home on a similar errand." And the two shook hands warmly.

"Sly old dog! Well, a fellow feeling and that, you know. Stay at home, will you?"

"Don't know. You live in the old town?"

"No place like it. Bought the old Jasper place and remodeled the house. Fine property. Bought it for Katherine's sake. She is very fond of it." He spoke with a sort of glow in his voice. He was large and fair, with a tender heart that looked out at his laughing eyes.

The other man suddenly stiffened. "The old Jasper place," he replied.

"On the corner of Spruce and Poplar—across from the park, you know. "We are coming back after a short Northern trip." He laughed softly. There was no sympathy in his friend's sunburnt face. But the light was dim in the lilac walk.

"You are—marrying Katherine Jasper?" The man from the West stood with his back to the light.

"Why, to be sure. I thought I told you. Prettiest woman I ever saw. I'm surprised that she'd look at me. Remember her, don't you?"

"Yes, I am stupid—see you later, Charlie," and he turned sharply away, followed by a long, low whistle that maddened him. He was glad that Charlie had not called her by her pet name, the pretty caressing little name that he loved.

He went down to the sea and walked up and down the beach while the little

waves whispered and died at his feet. After long hours the moon rose from the ruddy waters. He heard a late train come out from town. It would be going back after awhile. He might as well take it and catch an early express and get back to the West and the comfortable forgetfulness from which he had come to this bitter disappointment.

## II.

He hurried back to the hotel, found a sleepy porter and sent his baggage to the station, paid his bill, shook himself and turned his face to the West. He had choice between the wide bricked walk to the front gate and the sandy path that was bordered by lilacs as it wound around the old house and through the garden to a little tumble-down gate half-way to the station. He hesitated and chose the path. The garden was damp and tangled and sweet. Moonlight, white and clear, bathed it in unearthly glory.

Before him he saw the gleam of a white dress. A woman met him. He held out his hand. His blood danced wildly, and he was used to having it flow steadily. "I—thought you were in town," he said, a curious ring in his voice.

"I was," she answered, simply, showing no surprise at his manner of greeting her. "I returned on the last train. The others are sleeping in town. There was a wreck and the wedding trip can't begin till morning. Weddings are rather tiresome. We expected you."

"I—it was quite unavoidable."

"I understand, of course. Still I rather expected you."

"If I had known that you cared—"

She interrupted him quickly. "I didn't especially. Charlie told me that he had met you and asked you to the wedding."

He leaned toward her, his eyes stern. "Did you think I would go?"

Her chin went up a little. "It was over when he told me."

"It was?" Between set teeth. "But I dare say you'd have gone with him just the same if he had told you before."

"I suppose so," she answered, wearily. "Is it not a little chilly? I had on a raglan over my wedding garment, but I left it in the hall. I shall have to be going in. It was a lovely wedding."

"Osborn will be looking for you," he said.

She laughed softly. "No, he is in town, you know. But I must not stay out longer. Good-night."

"It is good-by," he said. "I am going away. I shall not see you again—if you go in now."

She held out her hand and he took it between his own. He felt it tremble, and held it closer. "I saw you at supper this evening," he said.

"Why didn't you speak to me?" She raised grievous eyes to his face. The look maddened him.

"I was a fool. If I had spoken—I wanted to see you first quite alone—"

"Why?" she asked, softly.

"Can't you guess?"

"I am afraid not. I am very dull."

He bit his lips. "Don't you know that I can't tell you? When one is married—is it quite impossible for a woman ever to understand?"

She laughed in her pretty, gurgling fashion, but in some swift, strange way she had changed. "Why, how came you to think that I didn't know?" She drew her hand from him slowly, and went on in a matter-of-fact way: "We used to play at love making, you and I, when the world was young. You have been thinking that I would expect a bit of withered, lavender-scented sentiment." She laughed merrily.

"I suppose so. Kitty, this thing of forgetting is not so easy for us all," he said miserably.

"Isn't it? I'm sorry to know that you had a bad time. Still, you did accomplish it." She smiled, patronizingly.

"I didn't," he contradicted, flatly.

"Is it really so bad as all that?"

Well, I must go in now."

"I think that you might say that you are sorry for me," he pleaded, and she turned back.

"I didn't suppose you'd forget and—"

and drag the law and the gospel in between us after this fashion," he said.

"I don't understand you; but Dick, I am sorry." There were tears in her eyes, and again she held out her hand. "I don't believe you—forgot," he whispered.

"Perhaps I shall," she said, bravely, "now that I know what my remembering has meant to you." Her proud head was held high, her strong, sweet face was raised to his. She looked at him with eyes that had no shrinking in their steadfast depths. "If I wronged myself by thinking of you before this meeting, I shall be careful not to wrong another by—"

"You waited for me, Kitty?" He looked at her, puzzled.

"It was hardly so much as that, I think. I expected you to come again. I have been too busy to think of love and marriage. There was little Katherine to bring up. Now that I have given her to Charlie—"

"Little Katherine?" he repeated.

"Dear old Bob gave her to me when he died eight years ago; I thought you understood. I was all she had."

"And—Charlie has married her?"

"Are you quite well?" she asked, "I—I think your people ought to know—"

"Why, Kitty, I have no people. After all, have you forgotten how utterly alone in the world I am?"

She caught her breath sharply and pressed her hands together.

"Must it always be so, Kitty? Couldn't you learn to care again?"

"And you were almost gone!" she sobbed.

A little note went into town on the morning train, and Charlie and his bride bent over it at the breakfast table.

"How lovely that the church is all decorated! What a sly old auntie ours is! We must hurry to get to the wedding. And you know that dark man and all about what he had come home for?"

"Of course I did."

"And she believed him.—New Orleans Times-Democrat.

## Why We Shake Hands.

The Prussian officer who held it his duty to kill a mere soldier who offered to shake hands with him had, from an official Prussian point of view, a complete case. Handshaking implies a certain degree of equality, and it is not possible for a Prussian officer to imagine any equal except another Prussian officer. Clearly any act suggesting such a thing could not be expiated by any punishment short of the immediate death of the offender.

The custom of handshaking dates back to the prehistoric times, a relic of those savage days when strangers could not meet without suspicion of murderous purpose. Then all men went abroad with weapons and shields, and when they met would stand in pleasant converse, each with his shield upon his left arm and with right hands clasped, so that there would be no chance for a sudden swing of the knife or bludgeon. The right hand was invariably used for the weapon, with the result that we are a right-handed race. The reason for this lay undoubtedly in the fact that the left arm was always employed in the important work of shielding the heart. Among the common people of the Aryan race the old pledge of amity in yielding the right hand to be grasped and held has since remained the chief token of open friendship. In the Iliad returning chiefs were "greeted with extended hands." Even at that remote day the early significance of the handclasp had been lost in the nobler meaning of civilized life. But it remains a salutation in which a greater or less degree of equality is claimed or conceded. It is, therefore, possible for a humble person to shake hands with the President of the United States, but not with an officer of the Prussian army.—Harper's Weekly.

First Officer—Yes; we were marching over a plank bridge when it gave way, and the men fell in. Second Officer—And what did you do? First Officer—Oh, I ordered them to fall out.



## Told in Finger Tips.

When a bevy of maidens would while away an idle hour, and foretell fate and fortune, it is not alone the lines on their hands that they consult, but the finger tips as well.

"Let me tell your future by your little finger," says one lively damsel to her companion. "Give it a graceful curve. Yes, that is it. Now, let me see, you will—"

"Marry a tall, dark-haired man who looks like a pirate, I suppose," interrupts her companion.

"I cannot go quite so far as that, nor tell whether he—the future he—will be dark and piratical, or light and poetical, so don't expect much from me."

The little finger that was held up showed that its possessor would be lucky in love affairs and constant in her affections. This was proved by its oval tip, with well marked lines near the joints.

Extreme delicacy of the lines of the finger tips, not weakness, but thread-like cushions, especially of the third fingers, denote an artistic talent. When studying finger tips, phalangiology, as it is called, the length of the tips above the ball of the finger must be noted. Unusual length shows that a woman covets power, and she usually gets it.

Very jolly and gay at times is the woman with the tips of her first fingers showings lines extending from one side to the other, absolutely unbroken, except by the cushion. The pointed or tapering first finger usually indicates one who is quick to grasp an idea and receptive of new impressions.

The pointed second finger, with fine lines, shows one decidedly optimistic; if very pointed, frivolous, fond of gossip, and on whom sorrows make but little impression. She is as irresponsible as a butterfly.

The fourth finger, if ringed with lines near the tip, and quite pointed, indicates one quick at repartee, witty and diplomatic. If the finger is smooth, or not lined with marks, or if it is square-tipped and rather heavy, the possessor is fond of praise, nor is flattery unwelcome.

The square little finger shows one who would rather do a thing herself than try to show others. She finds it difficult to put the knowledge into verbal expression and is prone to say the wrong thing at the wrong time.

The woman loves luxury and is most extravagant whose thumbs show straight markings.

With a long and narrow palm, a skin of milk and satin and blue veins, a refined nature is shown, but no deep affections. Warm affections and deep feelings are indicated when the "mount," at the base of the thumb is pronounced.

If the mount is quite flat, coldness and selfishness are shown. If it is crossed by many lines, the affections point in as many ways as the rainbow.

The mount of Jupiter, under the first finger, if well developed, indicates noble ambition and love of nature, and foretells a happy marriage.

From finger nails also is character foretold. Small, round nails are associated with an affectionate nature; filbert nails denote refinement; narrow nails incline to mischief; broad nails are indicative of a gentle, dependent nature; crooked nails belong to quick-tempered people; long nails to those of a temporizing disposition, one who would hesitate "to name the day." These are nails of persons who hate scenes.

Pink nails show indolence, red nails good temper, and nails abnormally pale, a weakness that is both physical and mental.

In reading character from the finger tips, the proper way is to study the fingers of the left hand and to prove the reading by the right. A magnifying glass, by the way, is needed for this study of phalangiology.

## Why Razors Get Tired.

"Do you know why we dip a razor in warm water before we begin shaving, and do you know why some ignorant men say a razor is 'tired'?" asked the barber. "Well, this is all due to the

fact that a razor is a saw, not a knife, and it works like a saw, not like a knife. Examined under the microscope, its edge, that looks so smooth to the naked eye, is seen to have innumerable and fine saw teeth. When these teeth get clogged with dirt all the honing and stropping will do no good—the razor is dull, and nothing will sharpen it. Then is the time the ignorant say it is 'tired' and stop using it, but the wise know it is only clogged.

"The wise, though, don't suffer their razors to get clogged, they dip them in warm water before they use them, and thus the teeth are kept clean. It is because a razor is a saw that lather is used on the beard. The lather doesn't soften the beard, as many people think; it stiffens it, so that it will present a firm and resisting surface to the razor."—Buffalo Express.

## A Monster Gun.

A big gun has just been completed and placed in position at Sandy Hook—made to protect our coast defenses. It took four years to make it. With 1000 pounds of powder it will send twenty-one miles a projectile weighing 2370 pounds, and it is calculated that the projectile when fired will be able to go through 27 inches of steel at a distance of two miles. Each time the gun is fired it will cost \$865. Making, transportation and placing it in position at Sandy Hook cost \$155,400. The Chicago "Tribune" has this to say of it:

"If the big gun survives the first discharge and satisfies the expectations of the builders and the government, probably that will be the last that will be heard from it. It will slumber on for years as peacefully as if it had no destructive possibilities within its huge bore, and the smallest bird that flies may light upon it with impunity. It will look out over the sea and keep faithful watch and ward for the approach of the country's enemies, who probably will never come within its radius of action; but if they come at all, they will seek a safer and more secluded spot. Conceding that this 16-inch gun represents the highest standard of the gun makers' skill thus far reached, and that with its companions yet to be constructed our coasts will be secure from invasion, it is still to be hoped that the time may not come when they are called into use. In any event their presence will greatly diminish the prospect of their use. Therefore, though costly luxuries, they are peacemakers, and the advocates of 'peace and good-will toward men' have no reason to be distressed because the government has spent such a large sum for the giant gun."—Men of To-morrow.

## A Tunnel That Helps to Dig Itself.

In the new Simplon tunnel under the Alps, which will be by far the greatest tunnel in the world, having a length of fourteen miles, and which, it is now reported, will be completed in July, 1905, the quantity of water flowing out of the southern end, from the many veins encountered in the heart of the mountain, amounts to fifteen thousand gallons a minute, and furnishes sufficient power to compress the air by which the drills are worked, and to refrigerate the tunnel. The necessity of refrigeration may be judged from the fact that the heat in the deeper parts of the tunnel rises as high as 140 degrees Fahr. when not artificially reduced. Life would be impossible in the tunnel if a successful system of refrigeration had not been devised. When a continuous hole through the mountain has been made the temperature can more easily be kept down.—Youth's Companion.

"There's a young woman who makes little things count."  
"How does she do it?"  
"Teaches arithmetic in a primary school."

"Where's your boy going after he leaves the model school?"  
"To some school that ain't model, I guess, to learn reading, writing and figures."

## Domestic Hints.

**STEWED CLAMS.**—Stewed clams are delicious prepared as follows: Select a quart of small and tender clams and rinse them in a quart of cold water, but do not drain them dry. Leave enough liquor to cook them. Put them in a porcelain-lined saucepan, and the moment they boil add a cupful of milk, with two tablespoonfuls of butter and one of flour mixed together. Stir the stew thoroughly and cook for two minutes. Pour the stew over broken crackers and serve as hot as possible, after seasoning well.

**FRENCH OMELET.**—Break three eggs into a bowl, add three tablespoonfuls of water or milk, a fourth of a teaspoonful of salt and a few grains of pepper, then beat with a fork until well blended, no longer. Put a tablespoonful of butter into a frying pan and when hot turn in the egg mixture. As it cooks lift up the cooked egg with a fork, letting the uncooked run under next to the pan until all is of a creamy consistency. Then let it rest on the stove for a few seconds to brown slightly underneath, lift to one side, slip a knife underneath and carefully roll the omelet to the center or fold one half over the other. Place a hot dish over the pan, invert them together, garnish the omelet with parsley and serve at once.

**ICE CREAM SANDWICH.**—For any social entertainment the following will be a novelty: Prepare a white ice cream foundation color one-half pink, violet or green, and flavor with strawberry, violet or pistachio. Flavor the white with vanilla, as this will bring out the other flavors and not interfere with them. Pack into pound baking powder cans and set in ice and salt for two hours. When ready to serve, wipe outside of cans with a hot cloth and creams will slip out. Have at hand sponge cake cut with cover of baking powder can. With a warm knife slice the moulded cream; put two colors on each side of a cake dish; garnish some with blanched almonds, others with English walnut meats and fruit.

**CROQUETTES OF MACARONI.**—Boil a quarter of a pound of Italian macaroni in salted water for twenty-five minutes. Drain, and put it in a saucepan with a good ounce of butter, half an ounce of Parmesan cheese and a quarter of an ounce of cooked smoked tongue cut into small pieces and one truffle cut the same. Toss all together, then change it to a well-buttered sautoire, spreading the preparation one inch thick on the bottom. Cover with a buttered paper, press it well down and put away to cool. Cut the preparation with a plain paste cutter into six parts; roll each one in grated Parmesan cheese, dip in beaten egg and roll in grated fresh white breadcrumbs. Fry in very hot fat for four minutes, drain well, and serve on a hot dish with a folded napkin.

# GLENN RANCH,

Glenn County, :: :: California.

## FOR SALE

### In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## LAND! LAND!

**\$11,500.** Good general farm, 83 acres, 2 1/2 miles from Stanford University. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

**\$30,000.** A fine apple orchard near Watsonville, 274 acres; 40 acres in apples, 40 acres in apricots; with best of improvements, large house, barn, etc. Net receipts \$5000 annually, and increasing. This property assures a continuous income; it is good value. Write for particulars.

**\$7750.** Profitable hill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and helpers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

I have listed many small fruit ranches in the Santa Clara valley, and town lots in Palo Alto. Write for what you require.

JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

**BUY** alfalfa land graded ready to plant; water right deeded with land guaranteed sufficient for irrigation purposes; near town creameries and R. R.; will sell for a limited time at \$15 per acre; half cash, balance on time if desired. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

**CHEAP RATES** California, Washington, Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

## NOTICE.

The Annual Meeting of the Stockholders of the GRANGERS' BUSINESS ASSOCIATION, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 309 California Street, San Francisco, at 10 o'clock A. M., Tuesday, the 11th day of August, 1903.

A. D. LOGAN, Vice-President.  
CHARLES WOOD, Secretary.



Entrance to Park.

Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasturage for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

**KEARNEY VINEYARD SYNDICATE**

KEARNEY PARK, FRESNO, CALIFORNIA



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, August 5, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	77 1/2 @ 79 1/4	77 1/2 @ 79 1/4
Thursday.....	78 1/2 @ 80 1/4	78 1/2 @ 80 1/4
Friday.....	79 1/2 @ 81 1/4	79 1/2 @ 81 1/4
Saturday.....	78 1/2 @ 80 1/4	78 1/2 @ 80 1/4
Monday.....	80 1/2 @ 82 1/4	81 1/2 @ 83 1/4
Tuesday.....	79 1/2 @ 81 1/4	80 @ 81 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	51 1/2 @ 52 1/4	51 1/2 @ 52 1/4
Thursday.....	52 1/2 @ 53 1/4	52 @ 52 1/4
Friday.....	52 1/2 @ 53 1/4	52 1/2 @ 53 1/4
Saturday.....	52 @ 52 1/4	51 1/2 @ 52 1/4
Monday.....	52 1/2 @ 53 1/4	52 1/2 @ 53 1/4
Tuesday.....	51 @ 52 1/4	51 1/2 @ 52 1/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1.49 1/4 @ 1.47 1/2	— @ —
Friday.....	1.47 1/2 @ 1.46 1/2	— @ —
Saturday.....	1.48 1/2 @ 1.49	— @ —
Sunday.....	1.49 1/2 @ 1.47 1/2	1.47 1/2 @ —
Monday.....	1.47 1/2 @ 1.49 1/2	— @ —
Tuesday.....	1.49 1/2 @ 1.48 1/2	— @ —

### WHEAT.

The wheat market in this center has continued decidedly unfavorable to the buying interest since last review. The arrivals and offerings were light. Purchasing was done mainly in the interior, and was principally to cover most immediate and pressing needs. Most of the exporters have temporarily abandoned the market, being unable to realize any more for wheat in Europe than it is now commanding here. That the yield of wheat in this State the current season will afford much of an exportable surplus is not probable. The demand throughout the season now promises to be mainly local, and prices will be regulated largely by the cost of bringing wheat here from outside sources of supply. Some is now arriving from Oregon and Washington, and increased importations from above sections are likely to be experienced in the near future. Not much wheat is going to foreign points from the North at present, wheat there being also too high for Europe, although not so high as here. Only a part cargo, less than 700 tons, was cleared from this port in July, against six cargoes, aggregating 17,436 tons, for corresponding month last year. August starts with a better showing, two clearances aggregating 900 tons having been made this week. Prices are about thirty per cent higher than a year ago. Values in the speculative market touched higher levels than preceding week, but extreme figures were not long maintained.

California Milling, new.....	1.55 @ 1.60
Cal. No. 1 shipping, alongside.....	1.47 1/2 @ 1.50
Oregon Club.....	1.45 @ 1.50
Washington Blue Stem.....	— @ —
Washington Club.....	— @ —
Off quality wheat.....	— @ —

### PRICES OF FUTURES.

December, 1903, delivery, \$1.46 1/2 @ 1.49 1/2.  
May, 1904, delivery, \$1.47 1/2 @ —.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.49 1/2 @ 1.48 1/2; May, 1904, \$ — @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	63 3/4 @ 65 1/4 d	68 1/2 @ 69 3/4 d
Freight rates.....	25 @ 27 1/2 s	13 1/2 @ 16 1/2 s
Local market.....	\$1.13 1/2 @ 1.16 1/4	\$1.47 1/2 @ 1.50

### LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on July 1 and August 1:

Tons.	July 1.	Aug. 1.
Wheat.....	17,804	*16,458
Barley.....	8,986	†28,223
Oats.....	2,671	2,836
Corn.....	95	73

\*Including 3740 tons at Port Costa, 12,227 tons at Stockton.

†Including 19,297 tons at Port Costa, 7378 tons at Stockton.

Stocks of wheat in near-by warehouses on 1st inst. show a decrease of 1346 tons for the month of July. A year ago there were 41,471 tons of wheat in near-by warehouses.

### FLOUR.

There are no heavy spot stocks of either local or outside brands, and the market displays in the main a strong tone, owing to the stiff prices which have been lately prevailing for wheat. The demand cannot be termed active, however, at the advanced quotations recently announced for flour. In fact, as is invariably the case where an advance in flour takes place, the brokers in this article see that the large

consumers are well stocked at the old figures.

Superfine, lower grades.....	\$2.50 @ 2.75
Superfine, good to choice.....	2.85 @ 3.10
Country grades, extras.....	4.00 @ 4.25
Choice and extra choice.....	4.30 @ 4.45
Fancy brands, jobbing.....	4.45 @ 4.70
Oregon, Bakers' extra.....	3.40 @ 4.00
Washington, Bakers' extra.....	3.40 @ 4.15

### BARLEY.

While the demand has continued brisk for desirable shipping grades, and such have commanded in the main comparatively stiff prices, the market for ordinary feed descriptions was hardly so favorable to the selling interest as for the high grade barley. The wider range developed in the market for feed barley was largely due to shippers crowding their screenings to sale at lower figures than generally asked by growers for ordinary feed qualities. Chevalier barley is not offering in large quantity, and for best qualities there is a very fair demand for shipment. In the speculative market for future deliveries of No. 1 feed, prices advanced above range of values established just prior to date of last review. Three cargoes of barley, aggregating 9000 tons, were cleared Monday for Europe.

Feed, No. 1 to choice new.....	\$1.07 1/2 @ 1.10
Feed, fair to good.....	1.05 @ 1.07 1/2
Brewing, No. 1 to choice new.....	1.17 1/2 @ 1.22 1/4
Chevalier, No. 1 to choice.....	1.35 @ 1.45
Chevalier, common to fair.....	1.10 @ 1.30

### OATS.

Compared with other grains, this cereal is selling at quite reasonable figures. Even choice to select qualities, which are most in request and are salable to better advantage than ordinary grades, are not commanding what could be termed very high prices. Few of the oats now coming forward will pass inspection as choice to select. Market closed firm at the advanced rates.

White Oats, fancy feed.....	1.30 @ 1.32 1/2
White, good to choice.....	1.25 @ 1.30
White, poor to fair.....	1.17 1/2 @ 1.22 1/4
Gray, common to choice.....	— @ —
Milling.....	1.25 @ 1.30
Surprise, good to choice.....	— @ —
Black Russian.....	1.15 @ 1.22 1/2
Red, fair to choice.....	1.15 @ 1.27 1/2

### CORN.

Market continues to be lightly stocked and very firm. The demand is slow, however, at extreme current rates, which is to be expected, as corn is by long odds the dearest feed cereal now on the list. Business at full current values is largely of a retail character.

Large White, good to choice.....	1.55 @ 1.57 1/2
Large Yellow.....	1.57 1/2 @ 1.60
Small Yellow.....	1.70 @ 1.80
Eastern, in bulk.....	— @ —

### RYE.

Not much being offered for sale, neither is the demand particularly active, but dealers find it difficult when making purchases to obtain any noteworthy concessions in their favor.

Good to choice, new.....	1.17 1/2 @ 1.22 1/4
--------------------------	---------------------

### BUCKWHEAT.

Market is firm at the advanced figures last quoted, being very lightly stocked.

Good to choice.....	2.00 @ 2.50
---------------------	-------------

### BEANS.

Buyers are holding back as much as their necessities will permit them, expecting to be able to purchase to better advantage on the opening of the new season. That their anticipations will be fully realized is by no means assured. The crop on the Sacramento river, the first to mature, is going to be late, owing to the cool and foggy weather, and from same cause some of the beans, especially Black-eyes, are developing poorly and prospects are will yield lightly. Besides, the acreage is said to be lighter than was generally estimated, considerable bean land being seeded to barley this season in consequence of the stiff market for some time past for the cereal named. Business lately has been mainly in Large Whites and Pinks. The latter are now in rather light supply. Present offerings are mainly Large Whites, Limas and Black-eyes.

Pea, fair to good, 100 lbs.....	3.25 @ 3.50
Small White, good to choice.....	3.15 @ 3.25
Large White.....	2.85 @ 3.00
Pinks.....	2.90 @ 3.00
Bayos, good to choice.....	3.40 @ 3.50
Reds.....	2.90 @ 3.00
Red Kidney.....	— @ —
Limas, good to choice.....	3.40 @ 3.50
Black-eye Beans.....	2.65 @ 3.00
Garbanzos, large.....	2.00 @ 2.25
Garbanzos, small.....	1.25 @ 1.50

### DRIED PEAS.

Market is quiet, fully as much or more due to absence of noteworthy offerings than to lack of inquiry. Buyers find it necessary in securing desirable qualities to pay full current figures.

Green Peas, California.....	1.60 @ 1.75
Niles Peas.....	2.25 @ —

### HOPS.

Trade in the local market is slow, buyers and sellers being in the main too far apart in their ideas of values for any active business. To purchase freely full current

quotations would have to be paid, but on selling pressure these figures could not be realized. Late Eastern advices by mail from New York furnish the following resume of the market: "The local market has made no further change of importance but there has been a dull trade throughout and continued weakness is shown. Brewers are buying only as current needs require; dealers make a few purchases here and there in order to have some stock to trade on, and exporters are doing about all of their business on the Coast. A few of the choicest lots of both State and Pacific coast hops are held somewhat above our top rates, but to effect sales 20c is all that can be depended on, and pretty good lots are offering for less. Yearlings and old olds are easier and neglected. Growers on the Pacific coast have yielded a little more this week, but on the basis of 16@16 1/2c for choice quality London buyers took about 2500 bales. Dealers have also taken a few lots at 14@16 1/2c. Most of the business was in Oregon, though some of the Washington growers have sold. California is not showing the same degree of weakness owing to the fact that dry weather is shortening the crop and the yield is not expected to be over 45,000 bales. Conditions in Oregon and Washington are very favorable. In New York State the yards continue to improve. English crop reports are about the same. Austria continues unfavorable and it looks as if they will not raise any more hops than last year. Prospects in Germany are good."

California, good to choice, 1902 crop.....17 1/2 @ 20

### WOOL.

Spring wool is practically all out of first hands and Fall clip, other than Lambs, has not yet begun to arrive in noteworthy quantity. Much the same firm tone as previously noted continues to prevail. Fall clip is expected to soon arrive in wholesale fashion, and there is every prospect that desirable offerings will meet with prompt attention at values on a par with those lately current on Spring fleeces. The steamer Newport, sailing Saturday last, took 198,732 pounds wool for New York.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Lambs, Northern.....	13 @ 14
Lambs, Southern and San Joaquin.....	9 @ 12 1/2

### HAY.

Despite decidedly heavy receipts of hay for several weeks past, the market has not developed any particular weakness. The demand has been exceptionally good, especially on shipping account, and offerings were given little opportunity to accumulate. Straw continued to arrive sparingly, and brought as a rule good figures.

Wheat, good to choice.....	11 00 @ 14 00
Wheat and Oat.....	11 00 @ 13 50
Tame Oat, good to choice.....	10 00 @ 12 50
Wild Oat, fair to good.....	9 00 @ 11 50
Barley.....	9 00 @ 11 00
Clover.....	10 00 @ 10 00
Alfalfa.....	9 00 @ 11 00
Stock Hay.....	7 50 @ 8 50
Compressed.....	11 00 @ 14 00
Straw, 1/2 bale.....	50 @ 60

### MILLSTUFFS.

Values on Bran and Middlings were maintained close to the range of preceding week, more due to limited offerings than to brisk demand. Stocks of Bran in city warehouses were reported at 208 tons on 1st inst., as against 650 tons a month ago, and 160 tons on Aug. 1st, 1902. Rolled Barley was steadily held at last quoted advance. Not much Milled Corn of any sort on market and stiff prices are being asked.

Bran, 1/2 ton.....	24 00 @ 25 00
Middlings.....	26 00 @ 28 00
Shorts, Oregon.....	24 50 @ 25 50
Barley, Rolled.....	23 00 @ 24 00
Cornmeal.....	33 00 @ 34 00
Cracked Corn.....	32 50 @ 33 50

### SEEDS.

Business in the several kinds quoted herewith is of the same light order as for some weeks past, and at generally unchanged values. With the single exception of Yellow Mustard, stocks are too light to admit of any noteworthy wholesale trading. Much of the Yellow Mustard now in store here is old and under choice.

Alfalfa, Utah.....	Per ell. — @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 00 @ 2 25
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

Canary.....	Per lb. 5 @ 5 1/2
Rape.....	1 1/4 @ 1 3/4
Hemp.....	3 1/4 @ 4

### HONEY.

Comb honey is in light supply and it now looks as though this would be the case throughout the season. Sales of fancy water white are being made in a small way up to 15c. by jobbers. Spot stocks of Extracted are of very moderate volume, and are being as a rule firmly held, but

demand is slow at extreme prices asked. Nevada water white alfalfa honey is offering at 5 1/2c. at points of production.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	5 @ 5 1/2
Extracted, Amber.....	4 1/2 @ 5
Extracted, Dark Amber.....	4 @ 4 1/2
White Comb, 1-b frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	— @ —

### BEESEWAX.

Market is firm at prevailing rates, there being no lack of demand for desirable qualities.

Good to choice, light 1/2 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Market for Beef has been without special change since last review, demand being fair at quotably unchanged rates, and supplies sufficient for immediate requirements. Veal in prime to choice condition met with a moderately firm market, being in light receipt. Mutton ruled fairly steady, with stocks not particularly heavy but ample for the demand. Lamb was not offering very freely and for choice the market was tolerably firm at rates quoted. Hog market was weak and lower, largely due to recent sharp declines in Eastern centers.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6 1/2
Beef, 3rd quality.....	5 @ 5 1/2
Mutton—ewes, 8@8 1/2; wethers.....	8 @ 9
Hogs, hard grain, 150 to 250 lbs.....	6 @ 6 1/2
Hogs, large hard, over 250 lbs.....	6 @ 6 1/2
Hogs, small, fat.....	5 1/2 @ 5 3/4
Veal, small, 1/2 lb.....	9 @ 10
Lamb, Spring, 1/2 lb.....	10 @ —

### HIDES, PELTS AND TALLOW.

While there is scarcely any competition among buyers at present, prices are being fairly maintained at the range last quoted. Markets East are reported slow and weak, which tends to have a somewhat depressing effect on conditions here.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair strips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	— @ 10 1/2	— @ 9
Medium Steers, 48 to 56 lbs.....	— @ 9 1/2	— @ 8
Light Steers, under 48 lbs.....	— @ 8 1/2	— @ 7 1/2
Heavy Cow Hides, over 50 lbs.....	— @ 8 1/2	— @ 7 1/2
Light Cow Hides, under 50 lbs.....	— @ 8 1/2	— @ 7 1/2
Stags.....	— @ 7	— @ 6
Wet Salted Kip.....	— @ 9	— @ 8
Wet Salted Veal.....	— @ 10	— @ 9
Wet Salted Calf.....	— @ 10 1/2	— @ 9 1/2
Dry Hides.....	— @ 17	— @ 16
Dry Kip and Veal, 11 to 16 lbs.....	— @ 14	— @ 12 1/2
Dry Calf, under 4 lbs.....	— @ 19	— @ 17
Pelts, long wool, 1/2 skin.....	1 00 @ 1 50	— @ —
Pelts, medium, 1/2 skin.....	70 @ 90	— @ —
Pelts, short wool, 1/2 skin.....	40 @ 65	— @ —
Pelts, shearing, 1/2 skin.....	15 @ 30	— @ —
Horse Hides, salted, large prime, each.....	2 75	— @ —
Horse Hides, salted, medium.....	2 50	— @ —
Horse Hides, salted, small.....	2 00	— @ —
Horse Hides, dry, large.....	1 75	— @ —
Horse Hides, dry, medium.....	1 50	— @ —
Horse Hides, dry, small.....	1 25	— @ —
Tallow, good quality.....	5 1/2 @ 5 3/4	— @ —
Tallow, poorer grades.....	4 1/2 @ 5	— @ —

### BAGS AND BAGGING.

Not much now doing in Grain Bags. Despite the low prices, there is almost entire absence of speculative inquiry. The market for Fruit Sacks is fairly active at quotably unchanged values. Movement in Wool Bags is light; prices remain as last quoted.

Fruit Sacks, cotton.....	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ —
Grain Bags, Calcutta, buyer July.....	— @ —
July.....	— @ —
Grain Bags, San Quentin, in lots of 2,000, 1/2 100.....	5 55 @ —
Wool Sacks, 4-b.....	35 @ —
Wool Sacks, 3-b.....	32 @ —

### POULTRY.

There was a very fair demand for young chickens in prime condition, especially medium size to full grown, and market was moderately firm at about same range of values current the preceding week. Common Old Hens met with slow sale, being mostly in poor condition. Market for Ducks and Geese was very quiet. Young Pigeons sold to a little better advantage than previous week.

Hens, California, 1/2 dozen.....	4 00 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	6 00 @ 8 00
Fryers.....	4 00 @ 4 50
Broilers, large.....	3 50 @ 4 00
Broilers, small to medium.....	2 50 @ 3 00
Ducks, old, 1/2 dozen.....	3 00 @ 4 00
Ducks, young, 1/2 dozen.....	3 50 @ 4 50
Geese, 1/2 pair.....	1 25 @ 1 50
Goslings, 1/2 pair.....	1 25 @ 1 50
Pigeons, old, 1/2 dozen.....	1 50 @ —
Pigeons, young.....	1 50 @ 1 75

### BUTTER.

Heavy offerings of Eastern butter are interfering with the advantageous disposal of the domestic product. Prices East have been on a much lower plane than here, enabling dealers to sell the imported article for less money than has been asked for domestic. Eastern creamery of No. 1 quality is being landed here



at 22@22½c, and common Eastern lade butter is obtainable at 13c there, costing about 15½c here in carload lots.

Creamery, extras, #10.....	24	@25
Creamery, firsts.....	23	@24
Dairy, select.....	23	@24
Dairy, firsts.....	22	@23
Dairy, seconds.....	21	@22
Parkin, good to choice.....	17	@18
Mixed Store.....	17	@18
Pickled Roll.....	—	@—

#### CHEESE.

Stocks of flats are on the increase and market is tending slightly in favor of buyers. There are not many Young Americas coming forward and values for these are being tolerably well maintained. Values now current here for cheese are 1½@2c higher than in Eastern centers.

California, fancy flat, new.....	12½@13
California, good to choice.....	12 @12½
California, "Young Americas".....	13½@14½

#### EGGS.

Not many strictly choice to select fresh arriving and these are commanding in some instances up to 28c from small buyers, this figure including cost of city delivery. The bulk of the business at present is in Eastern and cold storage eggs, which are being offered quite freely and at comparatively easy figures.

California, select, large, white and fresh.....	27 @28
California, select, irregular color & size.....	23 @26
California, good to choice store.....	18 @22

#### VEGETABLES.

Most kinds of vegetables in season were in liberal receipt and the market in the main favored the consumer. Onions and Green Corn being about the only noteworthy exceptions. Onions were in request for shipment to Australia and brought, in consequence, better average prices than had been ruling. Green Corn of choice to select quality was salable to decided advantage, such being in light stock. Tomatoes, Green Beans, Peppers, Cucumbers and Squash were all plentiful and lower.

Asparagus, #10 box.....	— @ —
Beans, Lima, #10.....	3 @ 4
Beans, String, #10.....	1½ @ 3
Cabbage, choice garden, #100 lbs.....	75 @ 100
Corn, Green, #10 crate.....	125 @ 200
Corn, Green, #10 sack.....	100 @ 200
Cucumbers, #10 large box.....	30 @ 75
Egg Plant, #10 box.....	50 @ 75
Garlic, #10.....	2 @ 3
Mushrooms, #10.....	— @ —
Onions, new Yellow Danver, #10.....	65 @ 75
Onions, new Red, #10.....	— @ —
Okra, Green, #10 small box.....	50 @ 75
Peas, Sweet Garden, #10.....	2 @ 3
Peas, good to choice, #10.....	— @ —
Peppers, Green Chile, #10.....	30 @ 50
Peppers, Bell, #10.....	35 @ 70
Rhubarb, #10.....	— @ —
Summer Squash, #10 large box.....	25 @ 40
Tomatoes, #10 large box.....	30 @ 60

#### POTATOES.

The market was not quite so favorable to sellers as during preceding week, the demand being less active at the extreme prices lately established. While there were no radical changes in quotable rates, concessions to buyers were of more common occurrence. The lower grades were rather difficult to move, even at moderate concessions from the prices which had been ruling.

California Burbanks, #10 cental.....	1 10 @ 1 50
River Reds, #10.....	— @ —
Garnet Chile.....	90 @ 1 15
Early Rose.....	90 @ 1 15
Potatoes in boxes, per cental.....	1 25 @ 1 75

#### The Fruit Market.

#### FRESH FRUITS.

Apricots were in reduced supply and were favored with a much firmer market than during greater part of previous week, there being a good demand from canners and shippers as well as from the local retail trade. Apples were quite plentiful, with a large proportion of offerings second-class, being wormy and otherwise more or less faulty; the market lacked firmness, especially for other than good to choice four-tier stock, offerings of latter sort not being particularly heavy. Pears sold at a lower range of values than preceding week, and for No. 2 stock, which was most in evidence, the market was decidedly unfavorable to sellers. Peaches were in heavy supply most of the week and prices suffered a sharp decline; offerings of this fruit from Sacramento river section were especially large. Black and Muscat Grapes are beginning to arrive in quotable quantity; for such as were ripe and in every way choice the market was moderately firm. Plums sold at much the same range as preceding week, but the market as a whole showed a slightly improved tone. Nectarines did not arrive very freely, and inquiry was fair, mainly for the Red variety. Figs were in light stock and choice black were salable at tolerably good figures. Cantaloupes and Nutmeg Melons were in liberal supply. Watermelons were in heavy receipt.

Apples, fancy, #4-tier box.....	— @ —
Apples, good to choice, #50-box.....	75 @ 1 00
Apples, common to fair, #50-box.....	30 @ 65
Apricots, #10 crate.....	20 00 @ 35 00
Blackberries, #10 chest.....	3 00 @ 4 00

Cantaloupes, #10 crate.....	1 25 @ 2 00
Crabapples, #10 small box.....	25 @ 40
Figs, Black, 1 layer, #10 box.....	75 @ 1 00
Figs, Black, 1 layer, #10 box.....	40 @ 65
Figs, White, #10 box.....	35 @ 65
Gooseberries, common, #10.....	— @ —
Gooseberries, English, #10.....	— @ —
Grapes, Fontainebleau, #10 crate.....	50 @ 75
Grapes, Seedless Sultan, #10 crate.....	75 @ 1 25
Loganberries, #10 chest.....	— @ —
Nectarines, #10 box.....	40 @ 75
Nutmeg Melons, #10 box.....	40 @ 75
Peaches, #10 box.....	25 @ 50
Pears, Bartlett, #10 box.....	65 @ 1 00
Pears, other varieties, #10 box.....	40 @ 75
Pears, No. 1 Bartlett, #10 ton.....	25 00 @ 30 00
Pears, No. 2 Bartlett, #10 ton.....	15 00 @ 20 00
Plums, good to choice, #10 box.....	30 @ 60
Plums, Large Green, #10 ton.....	15 00 @ 20 00
Raspberries, #10 chest.....	4 00 @ 7 00
Strawberries, Longworth, #10 chest.....	— @ —
Strawberries, Melinda, #10 chest.....	3 00 @ 5 00
Watermelons, #100.....	5 00 @ 20 00
Whortleberries, #10.....	8 @ 10

#### DRIED FRUITS.

In the matter of firmness of the market, as also in the demand and in the amount of new crop fruit offering on the spot, Apricots take the lead for the time being by long odds. The quotable range of prices for current season's product may be said to be 7@9c for prime to fancy, as to quality and district, extreme figure being mainly for Santa Clara Moorpark and Blenheim. New Apples are offering in moderate quantity at 5@5½ for evaporated in boxes, but as is usual with first arrivals of this fruit, they are not of very high grade, and as there are still moderate stocks of old, which show better quality than the new, most buyers are at present giving the 1902 product the preference at the same figures. In new Peaches nothing of consequence has yet been done, and very few of desirable quality have so far been offered, asking prices ranging from 4½@5½c for fair to good, these figures being above the views of most of the wholesale operators. New Pears are being offered for future delivery within range of 5½@8½c for fair to fancy, and some contracts have been made on this basis of values. The Prune market is without special change. New are being mainly held on the 3@3½c basis for the four sizes, but not many buyers are taking hold at these quotations. In old Prunes there has been some trading, mostly in the small sizes, some running over 120 going at \$20 per ton, and down to \$15 per ton for poor stock, extremely small and shriveled, showing little but pit.

#### EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4½ @ 5
Apples, extra choice to fancy, 50-lb box.....	5 @ 5½
Apricots, Moorpark.....	8 @ 9
Apricots, Royal, good to choice, #10.....	7 @ 8
Apricots, Royal, fancy.....	8½ @ —
Figs, 10-lb box, 1-lb cartons.....	65 @ 75
Nectarines, #10.....	3½ @ 4
Peaches, unpeeled, fair to good.....	3½ @ 4
Peaches, unpeeled, choice.....	4½ @ 4½
Peaches, unpeeled, fancy.....	5 @ 5½
Peaches, unpeeled, extra fancy.....	7½ @ 7½
Pears, halves, fancy.....	8 @ 9
Pears, halves, choice.....	5½ @ 6
Pears, halves, fair to good.....	4½ @ 5
Plums, Black, pitted.....	4½ @ 5
Plums, Red and Yellow.....	5 @ 5½
Prunes, Silver, good to fancy.....	4 @ 6½
Prunes, in bags, 4 sizes, 2½@2½; 40-50s, 5½@5½; 50-60s, 4½@4½; 60-70s, 3½@3½; 70-80s, 2½@2½; 80-90s, 2@2; 90-100s, 1½@1½; small, 1@1½.	

#### COMMON SUN-DRIED.

Apples, sliced.....	3½ @ 3½
Apples, quartered.....	3½ @ 3½
Figs, White, in bulk.....	5 @ 5½
Figs, Black, in sacks, #10.....	4½ @ 5
Plums, unpitted, #10.....	1½ @ 2

#### RAISINS.

Little doing in this line. Although the Association quotations are unchanged, there have been some recent transfers of outside stock at lower figures. Supplies are not heavy and are mainly loose Muscatel. Purchases of 2-crown are reported down to 3c. Under selling pressure it would certainly be difficult to realize more at this date.

#### CITRUS FRUITS.

Aside from some Late Valencia, the market is almost bare of Oranges, especially of desirable stock. The demand is not brisk, but quotable values remain practically at last noted. Lemons are in fair supply and have been moving slowly, with market weak for the average run of offerings. Limes were in tolerably liberal stock and were selling at rather low figures.

Oranges, Washington Navel, #10 box.....	— @ —
Oranges, Valencia, #10 box.....	1 25 @ 3 00
Oranges, Mediterranean Sweets.....	— @ —
Oranges, Seedlings.....	1 00 @ 1 25
Lemons, California, select, #10 box.....	2 50 @ 2 50
Lemons, California, good to choice.....	1 75 @ 2 25
Lemons, California, fair to good.....	75 @ 1 75
Grape Fruit, #10 box.....	75 @ 1 75
Limes, Mexican, #10 box.....	4 00 @ 4 50

#### NUTS.

The Davisville Almond Growers' Association disposed of their entire holdings of 1903 product on Saturday last: 100 tons of Hutch varieties at 9½@10½c, as to kind, and 50 tons of soft shell varieties at 8½@9c. There are no Walnuts on market. The coming crop will be materially lighter than last year, and there is every prospect of good prices being realized. Peanuts are ruling steady, with stocks rather light and mostly imported.

California Almonds, shelled.....	16 @ 20
California Almonds, paper shell.....	10 @ 12

California Almonds, soft shell.....	7 @ 9
California Almonds, hard shell.....	5 @ 5½
Peanuts, fair to prime.....	4½ @ 5½
Peanuts, Eastern, hand-picked.....	5½ @ 6½
Walnuts, White, soft shell.....	— @ —
Walnuts, White, standard.....	— @ —

#### WINE.

The wholesale wine market is exceedingly quiet, and that there will be much doing in this line before the vintage of 1903 begins to come upon the market does not now appear likely. The quotable range of values on dry wines of 1902 continues at 15@18c per gallon, but only for selections and in a limited way is any material advance on the inside figure obtainable. Receipts at this port last week were 333,800 gallons; for previous week, 371,550 gallons; for the month of July, 1,591,990 gallons. The steamer Newport, sailing on 1st inst., carried 65,375 gallons and 28 cases, the most of the shipment, 65,030 gallons, being for New York.

#### Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, #10 sks.....	98,782	410,789
Wheat, cts.....	14,273	88,614
Barley, cts.....	55,022	246,068
Oats, cts.....	25,049	67,019
Corn, cts.....	1,641	6,380
Rye, cts.....	2,050	6,040
Beans, sks.....	2,293	9,286
Potatoes, sks.....	15,241	88,609
Onions, sks.....	2,264	15,299
Hay, tons.....	5,886	19,891
Wool, bales.....	913	4,429
Hops, bales.....	207	625

#### EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, #10 sks.....	50,812	193,044
Wheat, cts.....	447	14,330
Barley, cts.....	9,526	77,219
Oats, cts.....	445	1,955
Corn, cts.....	300	1,345
Beans, sks.....	214	1,717
Hay, bales.....	1,819	11,414
Wool, lbs.....	357,357	562,605
Hops, lbs.....	3,373	19,152
Honey, cases.....	20	47
Potatoes, pkgs.....	2,155	8,746

**W. A. PLUMMER,**  
Importer and Manufacturer of  
**Fruit and Bean Bags, TWINES,**  
TENTS, AWNINGS AND WAGON COVERS

111 CLAY STREET,  
San Francisco, Cal.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co's Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

**DEWEY, STRONG & CO.**

(ESTABLISHED 1860.)

PATENT AGENTS.

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.



#### The Golden Harvest

will bring more gold to the farmer if he uses complete fertilizers containing not less than 6% actual

## Potash

The importance of Potash in grain culture is explained in our books which we mail free to all farmers who write for them.

GERMAN KALI WORKS,  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

## MALTHOID ROOFING



For all climates; heat, cold, rain, gases, fumes and fire do not affect it. Comes in rolls ready for laying. Low freight charges. Inexpensive to apply, cheap in the first place and lasts for years.

Send for booklet.

The Paraffine Paint Co.

San Francisco, Seattle,  
Portland, Los Angeles  
and Denver, Colorado.

## Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH.  
Price, \$2 Postpaid.

PACIFIC RURAL PRESS,  
330 MARKET ST., SAN FRANCISCO.

## THE RAISIN INDUSTRY.

A Practical Treatise on Raisin Grapes  
Their History, Culture and Curing.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hilgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers. Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

PACIFIC RURAL PRESS,  
330 Market Street, San Francisco, Cal.

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.

PACIFIC RURAL PRESS,  
330 Market St., San Francisco, Cal.



## Used Ten Years



For Spavins,  
Ringbone,  
Splints,  
Gurbs,  
and all forms of  
Lameness,

bunches or bony enlargements.  
Washington, D. C., Nov. 20th, 1902.  
Dr. B. J. Kendall Co.,  
Gentlemen: Please send me a copy of your  
"Treatise on the Horse and his Diseases." We have  
used your Kendall's Spavin Cure for ten years and  
gladly testify to its merits.  
Yours truly,  
JUSTUS C. NELSON.  
As a liniment for family use it has no equal. Price  
\$1.60 for \$5. Ask your druggist for KENDALL'S  
SPAVIN CURE; also "A Treatise on the Horse,"  
the book free, or address  
DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

## FRUIT MARKETING.

### California Fruit for Europe.

TO THE EDITOR:—The first shipment of American fresh fruit to Europe for the season of 1903, and one of the largest single consignments ever sent across the Atlantic, was carried out by the International Mercantile Marine Co.'s American liner St. Paul when she sailed from New York for Southampton last Wednesday morning. The shipment included nearly 10,000 boxes of pears, peaches, plums and cherries, which are being rushed across at this early date in order to take advantage of the good prices sure to obtain in the English market while the London season is on.

The fruit was all from California, and was brought across the continent in a special refrigerator train, eight cars of which were entirely occupied by the European shipment. The train started from the Pacific coast on the night of Saturday, July 11th, and on the trip to New York the fruit was re-iced only once, at Chicago. The train loaded with California products rolled into Jersey City last Tuesday morning, and within an hour the cars had been transferred to floats which were towed alongside the big liner as she lay at the American line pier, and before Tuesday evening the thousands of boxes had all been stowed in the ship's refrigeration chambers. There it will rest undisturbed until the St. Paul reaches Southampton on Wednesday next, when it will be transferred to a special train and rushed up to London. The entire voyage of 6000 miles across continent and ocean will be thus completed in eighteen days, and Londoners will be able to enjoy the unusual pleasure of eating California fruit before July is ended.

TO REACH A BARE MARKET.—While this is the first consignment of fresh fruit to be sent across the Atlantic this year, it is noteworthy also as one of the first attempts to ship this class of orchard products to Europe, aside from some experimental efforts which have been made under the direction of the Department of Agriculture.

American apples have for several years enjoyed a large sale on the other side and have been sent abroad in great quantities; but it is only within the past few seasons that pears, plums and peaches have come to be generally shipped. It is a noteworthy fact, however, that the shipments which have been made have been entirely successful. In spite of the great distance traversed, the special facilities afforded by the railroad companies and the American line steamships enable the fruit to be put down in London or Paris in as perfect condition as when picked from the trees, and it sells in direct competition with native European fruit, commanding higher prices and being greatly esteemed for its firmness and excellent flavor. Of course, at this season the European fruit has not yet reached the market, and the California product has everything its own way.

THE KINDS OF FRUIT.—This recent shipment included 6000 boxes of pears, over 2000 boxes of plums, about 1000 boxes of prunes and a number of boxes of peaches. It was made by the Earl Fruit Co. In addition to the California consignment, the St. Paul also carried out 100 barrels of New York State ap-

ples, raised in the Hudson River valley, which are the first of the apples raised this season to be sent abroad.

THE GOVERNMENT EXPERTS.—The officials of the United States Department of Agriculture have been conducting investigations for several years in connection with the shipment of American fresh fruit to Europe. The department has made a large number of shipments of different kinds of fruit—in many cases at its own expense and in others in co-operation with large fruit growers. These experiments have proved that it is entirely feasible to ship nearly all classes of American fruit to the other side of the Atlantic; and, furthermore, that this fruit for the most part reaches the European markets at seasons when it does not come in competition with the native crop, and when it accordingly commands exceptionally good prices. These experimental shipments have been made under the direction of William A. Taylor, the field agent of the pomological division of the Department of Agriculture, who has spent several years in studying the conditions of fruit production and the fruit trade on both sides of the Atlantic.

RELIEF TO LOCAL MARKETS.—The importance of these efforts in opening the European market to the American farmer and fruit grower is readily apparent. It not only proves a new outlet for his products, and one in which they are likely to command higher prices than could be obtained at home, but it tends to relieve the domestic market in seasons when a very heavy crop otherwise would mean prices so low as to leave no room for profit. In the past the general rule has been either a very large crop, with prices so low that much of it has gone to waste, or else high prices because of an extremely light yield. In either case the fruit grower has suffered—in the one instance because he could not sell his crop, and in the other because he had none to sell. With the development of a steady demand in Europe for American fresh fruit, such as now seems to be coming about, this matter will be automatically regulated to a certain extent, and should mean more uniform good prices for the grower than has been the case in the past.

Most of the fresh fruit which is being shipped abroad travels by the American line steamers, not only because they make the trip in quick time, but because their European ports are at Southampton and Cherbourg, so that only a very short haul by rail is required to reach London and Paris. This is an important consideration in Europe, where refrigerator cars are not usually available, and where, consequently, the fruit will not reach the market in perfect condition if a long railway trip is necessary.

COLD STORAGE A YANKEE NOTION.—Aside from the seasonable conditions already referred to and the superior quality of his product, the American shipper of fruit enjoys one other great advantage in the European market. That comes from the fact that comparatively little is known abroad about the cold storage of fruit. Even in the case of apples, it has been found necessary to store them on this side of the Atlantic and to ship them to London or Paris, as the market required, on account of the lack of cold storage facilities in every part of Europe. In this respect Americans are far in advance of the rest of the world, and it should result in building up a large and steady demand for the product of American orchards in Great Britain and France at least. In Germany, where there has existed heretofore a growing market for American apples, efforts are being made by the native growers to exclude American fresh fruits by means of discriminating tariffs, and the German Government seems inclined to adopt this plan. This need not worry the American fruit grower, however, as France, England and Ireland probably will be able to take care of all that can be spared from the domestic market for some years to come.

The great success of Americans in shipping fruit in this form may be said to date from the Paris Exposition of 1900, where the display of American

apples, pears, plums, cherries and other fruits attracted universal admiration. At that time, in order to have the fruit used for exhibition purposes in perfect condition, the Department of Agriculture made special arrangements with the American line for transporting it. As part of these arrangements, a cold storage warehouse was erected at Havre, to which the fruit was transferred from the steamers, and from which it was withdrawn as needed for display. This was the first warehouse erected in Europe especially for the cold storage of fruit, and the great success which attended this effort to familiarize Europeans with American orchard products is now being regularly repeated on a purely commercial basis.

### Report on Lemons and Walnuts in Italy.

By C. S. CROWNSHIELD, United States Commercial Agent, Castellmare di Stabia, Italy. furnished for publication in the PACIFIC RURAL PRESS by the State Horticultural Commissioner.

LEMONS.—This summer's crop will be a good average one, larger than that of last year, but the fruit leaves something to be desired as regards size and appearance, and the quality, not being up to the usual standard for keeping, will not permit of more than one-half being shipped to places like the United States, where a long voyage is necessary. Therefore it is quite probable that shipments to America will fall short of the usual.

I should judge the yield to be about 90,000 boxes, of which only one-third will be available for shipment to the United States. The remainder will be disposed of in European markets. As I have already mentioned, the quality of the lemons is somewhat below the average, but the portions shipped to America will be specially selected and of the usual grade.

I estimate that the price will be about \$2.75 per box, f. o. b. Rates of freight may be taken as 10d per box by the ordinary steamers, and 1s per box by the faster ones.

WALNUTS.—It is as yet much too early to give any definite idea as to the prospects of the new crop. The trees, however, gave good blossom, and this would point to a good average crop, provided, of course, that we have good weather between now and October, when the shipping season commences.

### Walnut Crop of Hungary in 1903.

By FRANK DYER CHESTER, United States Consul, Budapest, Hungary.

A good home crop of walnuts is expected this year in Hungary, as there has been no damage caused by the elements up to date. The home crop usually amounts to from 150 to 220 carloads of 10,000 kilos (say 10 tons) each. Payments are usually cash against bill of lading. Delivery takes place, as determined by seller, from the place of production any time up to November 10th. Walnuts are not sold before the crop is ready for delivery, beginning, say, the 15th of October, at which time only are prices quotable.

Hungary's export of walnuts is usually much larger than the import. On the other hand, Hungary is a good market for almonds and hazel nuts, the import of each of which exceeded the export in 1901 by about 1,000,000 pounds. Of this heavy import, 221 pounds of almonds came from Cuba (or Porto Rico?), classed as "southern fruit," and 661½ pounds of hazel nuts came from Brazil as "fresh fruit." Following is the aggregate of Hungary's walnut trade in 1901: Imports 2,494,846 pounds, exports 4,239,001 pounds.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

**CORN** HARVESTERS. It cuts and throws it in pile. One man and one horse cuts equal to a corn blinder. Price \$12. Circulars free. NEW PROCESS MFG. CO., Lincoln, Kansas.

## SHARPLES TUBULAR FARM Separator



Why does every sensible farmer who examines a TUBULAR

buy it in preference to any other separator? Because he can plainly see that it is worth twice as much as other separators. You will understand why if you will let us tell you of its many fine points, too numerous to mention here. Write for free catalogue No. 131

THE SHARPLES CO., P. M. SHARPLES, Chicago, Ill. West Chester, Pa.

### CITRUS TREES

That will grow, bear profitable crops, and are true to name, are the only kind that we propagate. Thirteen years in the citrus nursery business—hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture free; send for a copy.

SAN DIMAS  
CITRUS NURSERIES  
SAN DIMAS,  
R. M. TEAGUE CAL.

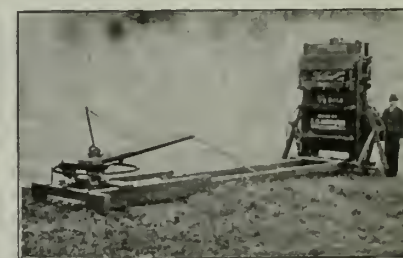
75% That represents the labor saved in feeding a machine with traveling feed table over the old style plain table. THIS MACHINE AND ALL

### OHIO

FEED AND ENSILAGE CUTTERS are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator. SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities. Gen'l Agts. HOOKER & CO. 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## JUNIOR MONARCH HAY PRESSES.



Standard and ¾ Bale Sizes.

Manufactured and for Sale by

L. C. MOREHOUSE.

WM. H. GRAY, Agent, San Leandro, Cal.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. A. VAN DER NAILLEN, Pres't. Assaying of Ores. \$25; Bullion and Chlorination Assay, \$35; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

Telephone Main 199.

Blake, Moffitt & Towne.

DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.

BLAKE, MOFFITT & TOWNE, Los Angeles.

BLAKE, McFALL & CO., Portland, Or.



## ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He used to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas this also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. H. Webster, formerly of the Kansas Agricultural College and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

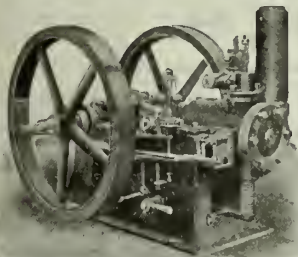
Remember, the U. S. Holds World's Record

For further particulars as to its merits, write for catalogues.

Vermont Farm Machine Co., Bellows Falls, Vt.

321

## Hercules Gasoline Engines



# FOR

PUMPING WATER,  
CUTTING ENSILAGE,  
SHELLING CORN,  
SAWING WOOD,  
CLEANING GRAIN,  
RUNNING SEPARATOR, Etc.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

Baker & Hamilton,  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

## HERBICIDE

KILLS

WEEDS AND POISON OAK.

Keeps Gutters and Roadways Clean.

Don't be skeptical, but write for facts and particulars to the Pacific Coast Agents,

ECCLES & SMITH, 91 FREMONT STREET, SAN FRANCISCO, CAL.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING

or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,

713 Market Street, San Francisco.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine Grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
FANCHER CREEK NURSERIES Inc.

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 18

FRESNO, CAL.



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by FIELD FORCE PUMP CO., Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717, 134 S. Broadway, Los Angeles, California.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

CONTENTS.

### Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

### Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—

## GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California  
California Climate as Related to  
Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation.  
Garden Drainage in California.  
Cultivation.  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Radishes.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

## PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



## THE IRRIGATOR.

### Irrigation Congress at Ogden, Utah.

The Eleventh National Irrigation Congress will be held at Ogden, Utah, September 15th to 18th, inclusive, 1903. Government and leading irrigation experts, practical farmers, irrigationists, fruit growers, representatives from State agricultural institutions, State engineers, Government and noted foresters, as well as press representatives, business men, officials and law-makers, will be in attendance and participate in the discussion. The programme will include: Practical irrigation and forestry lessons; reports of experts; application of provisions of the Reclamation Act; State progress under the National Act; views on settlement of legal complications; and the pertinent and important theme of colonization.

Utah being the pioneer State in irrigation science proffers special opportunities for the study of its history and progress. Railroad and other excursions covering this field will be arranged for delegates by local committees.

The coming meeting possesses particular interest because the United States Government has in its treasury over \$10,000,000, which has been appropriated and set aside for the purpose of reclaiming the arid lands of the West. This great sum of money, as well as all future receipts from sales of the public lands of the sixteen arid States and Territories, can be used only for the storage of water by the erection of reservoirs and dams and the developing of water supplies by artesian wells and drain tunnels, and the conserving in other ways of water for the reclamation of lands in the arid West, which is defined by the irrigation law as including the following States: Arizona, California, Oregon, Washington, Nevada, Idaho, Montana, Wyoming, Colorado, Kansas, Nebraska, New Mexico, North Dakota, South Dakota, Oklahoma and Utah.

The National Irrigation Congress, which was instrumental in causing the Government to set aside this great sum of money and which reconvenes at Ogden, Utah, next September, will recommend to the Secretary of the Interior the expenditure of these millions set aside as a reclamation land fund. Shall this State have her quota of this money? Shall this important neighborhood be represented at this Congress? Each board of county commissioners, the Mayor of each city not over 25,000 population, each chamber of commerce, irrigation association, agricultural society, live stock association, society of engineers, and agricultural college is entitled to send two delegates; mayors of cities over 25,000 population, four delegates, and the Governor of each State, twenty delegates. This State and community should be fully represented in this National Irrigation Congress. Those interested in the upbuilding of our State surely should look into this matter, and see to it that proper representatives are sent to Ogden, Utah, to attend the Irrigation Congress. Those desiring further information may address Fred J. Kiesel, chairman of the executive committee of the Eleventh National Irrigation Congress, Ogden, Utah, who will send the official call including credential blanks. Those who are authorized to appoint delegates should act promptly in this matter.

# HEALD'S

BUSINESS COLLEGE,  
24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago. : : :  
ESTABLISHED NEARLY 40 YEARS.  
30 Teachers; 70 Typewriting Machines; 20,000  
Graduates; 1000 annual enrollment; 600 average  
daily attendance; 600 calls annually for graduates  
of the college. All departments open the entire  
year. Both sexes. Individual instruction.  
Write for new Catalogue and College  
Journal—Free.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC  
PRESS PATENT AGENCY, 330 Market St.,  
S. F., has official reports of the following  
U. S. patents issued to Pacific coast in-  
ventors:

FOR WEEK ENDING JULY 21, 1903.

- 734,212.—METAL SIGN—Ayers & Coffee, Modesto,  
Cal.  
733,936.—TENSION DEVICE—J. Barrett, Tombstone,  
Ariz.  
734,397.—SULPHUR BURNER—H. Blumenberg, Jr.,  
Daggett, Cal.  
733,940.—VEHICLE SPRING—F. Bosch, Crescent  
City, Cal.  
734,039.—BOTTLE—L. Brand, Los Angeles, Cal.  
734,400.—CASH DRAWER—H. H. Chesborough, Se-  
attle, Wash.  
734,408.—WRENCH—H. G. Dunston, Santa Monica,  
Cal.  
734,056.—RAILWAY RAIL JOINT—J. W. Gay, Soda-  
ville, Or.  
734,342.—NAPKIN HOLDER—L. R. Le Lande, S. F.  
734,076.—FIANO TRUCK—A. Loeb, Portland, Or.  
733,983.—CAN BODY MACHINE—A. Lotz, S. F.  
734,237.—GAS ENGINE—J. D. McFarland, Jr., S. F.  
734,238.—DEPURATOR—A. W. Ottignon, Seattle  
Wash.  
733,996.—WINDOW SHADE—M. E. Reilly, Tacoma,  
Wash.  
733,999.—PLOW—Richards & Gitman, Tacoma,  
Wash.  
734,243.—FLAT IRON STAND—Mary Schubert, Los  
Angeles, Cal.  
734,284.—FRUIT BRUSHER—F. Stebler, Riverside,  
Cal.  
734,145.—PRESSURE APPARATUS—F. Swinney,  
Tucson, Ariz.  
734,021.—CAR—Warner & Gilman, Tacoma, Wash.  
734,110.—LUMBER DRIER—G. X. Wendling, S. F.  
734,385.—WATER GATE—L. Winans, Hood River, Or.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer  
heat interfering with laboratory  
processes WE HAVE MOVED  
OUR LABORATORY FROM  
FRESNO TO BERKELEY.

Our head office is in the Rialto  
building, corner Mission and  
New Montgomery Streets, San  
Francisco. Our P. O. address is  
The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS  
CUTTER'S  
BLACK LEG VACCINE.

Write for BLACK LEG booklet.

If your druggist does not stock our prod-  
ucts, order direct from us; we pay all trans-  
portation charges.



**You'll Never Regret**  
buying The PAGE for your fall fencing. It lasts.  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



**FENCE! STRONGEST MADE.** Bull  
Tight. Sold to the Farmer at Wholesale  
Prices. Fully Warranted. Catalog Free.  
COILED SPRING FENCE CO.  
Box 209, Winchester, Indiana, U. S. A.

## Capri Figs.

With live Blastophaga to  
fertilize figs.

Can supply from August 1st to September 1st.

\$2.00 PER DOZEN

By Mail Postpaid.

CALIFORNIA NURSERY CO.  
NILES, CALIFORNIA.

## We Make a Specialty of Planning, Building and Equipping Drying Plants and Warehouses Anywhere on the Coast.

Hardly two plants are alike. Different conditions and requirements  
existing in various sections of the country are not to be met with one gen-  
eral style of drying plant.

We have found in our years of experience that each particular case  
requires special individual attention. No matter where you are, or how  
big or small the plant you are figuring on, let us hear from you.

In the meantime, if interested in fruit handling machinery of any  
kind, send for our new catalogue which contains over 80 illustrated and  
descriptive items pertaining to this business.

ANDERSON-BARNGROVER MFG. CO.,  
128 WEST SANTA CLARA STREET, SAN JOSE, CAL.

JOHN A. YEATMAN & CO.

13 FIRST STREET, SAN FRANCISCO, CALIFORNIA.

IRRIGATORS ATTENTION!

WE MANUFACTURE

## Eclipse Centrifugal Pumps

AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.

Send for Folder.

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**  
Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.



**Eames Tricycle Co.,**

Patentees and Manufacturers  
of improved designs of Tricycles,  
Tricycle Chairs for Invalids, and  
various models of rolling Chairs.

Chairs sold, rented and ex-  
changed.

Illustrated Catalogue mailed on  
application.

**EAMES TRICYCLE CO.,**  
2020 Market St. San Francisco.  
534 S. Broadway, Los Angeles.

## Moravian Barley.

Grown in the Livermore valley  
from seed brought to this country  
from Hungary by the U. S. Agri-  
cultural Department.

Hanna or Moravian Chevalier heads out two  
weeks earlier than the Chevalier usually grown in  
this State; resists drouth, hot weather and wind  
better than other varieties. In Germany and Aus-  
tria it is known as the best brewing barley.

FOR SALE IN QUANTITIES TO SUIT BY  
**August Hagemann,**  
LIVERMORE, CAL.

## WEATHER VANES



WAGON and PORTABLE  
SCALES.

HAND, PLATFORM and  
SPECIAL TRUCKS.

HALL'S SAFES,  
The Standard for Over  
Sixty Years.

COFFEE MILLS,  
MONEY DRAWERS, Etc.

**HOWE SCALE CO.**

12 & 14 Pine St., San Francisco. Phone Main 1305.



## THE STOCK YARD.

### Stock Growers and the State Fair.

By MR. E. W. HOWARD of San Francisco, Vice-President of the State Board of Agriculture.

The State Fair of 1903 will approach nearer than any fair of recent years to the standard which the State Fair of a great agricultural State like California ought to strive for. The livestock exhibits, especially, promise to be up to this standard of excellence.

It has been the policy of the directors to give every incentive to the breeders of this State and neighboring States to exhibit their herds of pure-bred horses, cattle, sheep and swine of every breed by increasing the premiums offered and by a thorough revision of the premium list to meet modern conditions.

FROM OTHER STATES.—The State of Iowa will be represented by an exhibit of Clydesdale and Shire horses and Polled Angus cattle.

Nevada will be represented by the well-known Hereford herd of Governor Sparks (and the equally well known J. Marzen herd of Shorthorns. Up north in Oregon such breeders as Ladd of Portland, owner of the Oak Hill Stock Farm, and W. O. Minor, both breeders of Shorthorns and other improved breeds, are preparing to battle for the blue ribbons.

CALIFORNIA'S PRIZE HERDS.—California also will be well represented and her herds will take their share of the honors. The Shorthorns will be out in force, for we hear that Isaac Bird of Merced, J. H. Glide of Sacramento, Robert Ashburner and the Quinto herd, property of the William H. Howard estate, P. H. Murphy and W. Gibson will all be on hand, as well as other breeders of the noble breed, to prove the merit of their respective herds.

Whitaker's Herefords from Galt and Cone's herd of Herefords from Red Bluff will vie with the Alamo herd of Governor Sparks from across the mountains.

The Shafter herd and the herds of the North and South Jersey Associations will compete for honors in the Jersey classes. The Holsteins will have a strong representation. La Siesta ranch of San Jose, Pierce Bros. of San Joaquin, Minnewawa Stock Farm of Fresno and other representative breeders will show. Sheep and swine will be legion; individuals from Ohio, Iowa, Oregon, Illinois and New York will be exhibited.

GOOD JUDGING.—Although the success of an exhibit of this kind depends largely upon the quality of the exhibits, a competent judge is the most important factor. There can be no more instructive object lesson, none more fruitful of results to the farmer and the cattleman, than that of an expert of animal industry judging a class of cattle, especially his exposition of the good and bad points of the various individuals.

Judging livestock is no haphazard process of arriving at an opinion as to which is the most pleasing to the eye, but is an exact science, with utilitarian considerations as a foundation. A competent judge must be conversant with the uses to which each breed or animal is to be put, and must know what type of that breed best fills the requirements.

Hence, the beef breeds are judged good, bad or indifferent in the measure that they show early maturity, aptitude to fatten, and a dozen other requirements of form, etc. The dairy breeds from an entirely different point of view, and, as this applies to the breeds, it applies to the individual. Prof. W. L. Carlyle, expert in Animal Industry of the University of Wisconsin, will be judge, and associated with him will be Prof. E. W. Major of the University of California.

EDUCATIONAL FEATURE.—The judging is the greatest educational feature of the fair and no farmer or stockman can afford to miss it. Those that had the good fortune to hear Prof. Carlyle at last year's fair, one and all say that they would not have missed it for anything. The layman will do well, also, to take advantage of this great opportunity,

both for the pleasure derived and for the practical knowledge obtained. There is no need for a man being stuck by his butcher with cheap meat when he is paying for choice cuts; no need of his buying for a family cow one fit only for the block. Let him go and learn, and return home a wiser and broader man.

## Breeders' Directory.

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS**. Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**BERKSHIRE AND POLAND-CHINA PIGS**, both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINA FOR SALE**, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**SANTA TERESA POULTRY FARM**, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**BRONZE TURKEYS**. Ed. Hart, Clements, Cal.

### SHEEP.

**R. H. CRANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

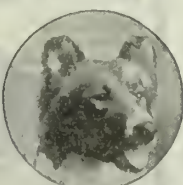
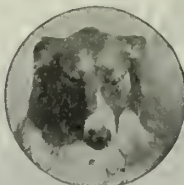
### BREEDERS' SUPPLIES.

**GEO. H. OROLEY**, 506 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS**, Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

IN REPOSE

ATTENTION



"CLIFF," REGISTERED A. K. C. No. 70,011

If you need a dog to herd your cattle, GET THE BEST! The best is a

**Thoroughbred Scotch Collie.**

We have Puppies and full-grown stock constantly on hand. For particulars giving pedigree, etc. Address, Toyakano Kennels, Colfax, Placer Co., Cal.

### WANTED.

A quantity of pure Propoa and Michigan Mixed Seed Wheat, FREE OF OTHER VARIETIES AND FOUL SEEDS.

ADDRESS:

**W. W. HALL**, Hickman, Cal.

**DEWEY, STRONG & CO.**

Patent Agents, S. F., Cal., and Washington, D. C.

# STATE FAIR OF 1903

AUGUST 31st to SEPTEMBER 12th,  
AT SACRAMENTO, CALIFORNIA.

## 50th Annual Exposition

CALIFORNIA'S

GREAT

Agricultural, Horticultural and Live Stock Exposition.  
EVERY DAY A GREAT DAY!

**PROF. W. L. CARLYLE** of the Bureau of Animal Industry of Wisconsin, and **PROF. E. W. MAJOR** of the Bureau of Animal Industry of the University of California, will judge all classes of Live Stock and deliver instructive Lectures on Live Stock Husbandry.

**PROF. H. E. ALVORD**, Washington, D. C., Chief of the United States Bureau of Dairy Industry, will be present at the Dairy and Creamery Operators' Convention and address same.

**CATTLE—BEEF AND DAIRY BREEDS.**

Grand Animals—See Them and Try to Breed Some Like Them.

**DRAFT HORSES, SWINE AND SHEEP.**

The Pick of the World—Come and See the Highest Types of Farm Animals.

Two Weeks of Running and Harness Racing!

CREATLY INCREASED PREMIUMS.

**POULTRY SHOW**—Standard and Fancy Breeds.

**INDUSTRIAL PAVILION DISPLAY**—An Exposition in Itself.

EXHIBITS CARRIED FREE. EXCURSION RATES TO VISITORS.

For Particulars and Premium List, apply to

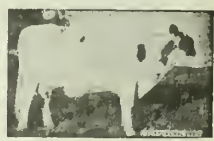
**H. LOWDEN**, Acting Secretary, Sacramento, Ca'. **B. F. RUSH**, President.

**CHAS. D. PIERCE**, Pres.

**W. FRANK PIERCE**, Vice-Pres



## RIVERSIDE HERD HOLSTEINS.



**DE KOL OF VALLEY MEAD.**  
7 day A. R. O. record  
19 lbs. 9 oz. butter.

**ROMEO AAGGIE ACME.**  
7 day A. R. O. record  
26 lbs. 11 oz. butter.

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered.

Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.
Romeo Aaggie Acme.....	431	7 yr.	26.11 oz.	Corona Clifden .....	410	6 yr.	16.3 oz.
Fidessa .....	370	4 "	25. "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d.....	499	7 "	23.15 "	Mountain Juliet.....	382	7 "	15.14 "
Netherland Maud Moore.....	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	338	4 "	15.6 "
Minnewawa Louise.....	510	4 "	22.9 "	Lady Kurts Alpa.....	378	6 "	15.2 "
Nicola De Kol.....	510	6 "	22.4 "	Pauline Sadie De Kol.....	367	3 "	15.2 "
De Natsey Baker.....	484	3 "	21.10 "	Eva Blanco.....	355	2 "	14.5 "
Ruda 2d Belle.....	401	7 "	20.9 "	Corona Acturas.....	344	2 "	14.1 "
De Kol Konigen Van Freisland.....	440	8 "	20.9 "	Korndyke Pieterijte Queen.....	300	2 "	13.14 "
Minnewawa Lily.....	364	4 "	20.4 "	Aral a De Kol.....	332	2 "	13.7 "
Drosky Artls.....	460	6 "	20.4 "	Oleander De Kol.....	324	2 "	13.1 "
Griseida of Brookfield.....	512	6 "	20.3 "	Rijaneta Clothilde 2d.....	312	2 "	13.2 "
De Kol of Valley Mead.....	435	4 "	19.9 "	Segriss Pieterijte De Kol 2d.....	355	2 "	12.11 "
Wynetta Princess.....	391	2 "	18.7 "	Western Princess.....	294	3 "	12.11 "
Drusa.....	399	5 "	18.4 "	Painted Lady.....	327	3 "	12.10 "
Wakalona.....	393	5 "	18.3 "	Mary Ann De Kol.....	391	3 "	12.10 "
Olympia Clay.....	526	6 "	18.2 "	Miranda Acturas.....	325	3 "	12.3 "
Victor Idlewild 2d.....	371	4 "	17.9 "	Rhoda De Kol Colantha.....	353	2 "	12.6 "
Cascade Princess.....	479	8 "	17.2 "	Hengerveld Lass.....	306	2 "	12.2 "
Western Duchess.....	387	7 "	16.6 "	Princess Louise De Kol.....	269	2 "	12. "
Aaggie Martin.....	416	6 "	16.12 "				
Roma Princess.....	368	3 "	16.8 "				

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

## PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103  
STOCKTON, CAL. 'Phone, SUBURBAN 281.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

**N. OHLANDT & CO.**, Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramping Machine and method of use; also thorough feeding, and our special brand of **Grenadier Meal**; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## HOLSTEIN CATTLE.

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders.

Large Number of Officially Tested Cows. Bull Calves from Great Producing Dams.

Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.



## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWCHILLA STOCK FARM.

Address... **ISAAC BIRD**, Merced, Cal.

## FOR SALE.

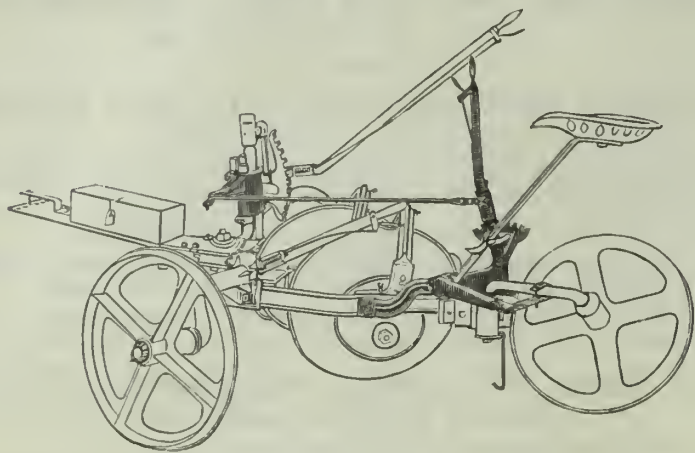
Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.



## TWO-DISC Benicia-Hancock Plow.



Don't be misled into buying any Disc Plow until you try the BENICIA-HANCOCK in your own field—AT OUR RISK. Other plows may still be improving, but the BENICIA, with its patented features, is away in the lead AND WILL STAY THERE.

Write for circular and our liberal offer to all bona fide intending purchasers of a Disc Plow.

## BAKER & HAMILTON,

Sacramento, San Francisco, Los Angeles, Cal.

**WOODIN & LITTLE,** 312-314 Market Street, SAN FRANCISCO, CALIFORNIA.

DEALERS IN PUMPS FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITE-WASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.

WIND MILLS, TANKS, HORSE POWERS.

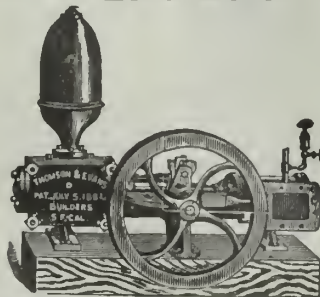
IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES, 1½, 3, 5, 8, 12 HORSE POWER.

SEND FOR COMPLETE CATALOGUE—MAILED FREE.

## C. H. EVANS & CO., Machine Works.

Thomson & Evans  
Steam Pumps.

DEEP WELL  
and  
POWER PUMPS.



MARINE ENGINES.

SHIP and STEAMBOAT  
WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St.  
SAN FRANCISCO.

## FRANCIS SMITH & CO.,

—MANUFACTURERS OF—

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.  
83 FREMONT STREET, - - - - - SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

Steel Disc  
Clingstone

## Peach Pitter.

A Clean and Quick  
Cutter.

Price, - \$12.00  
Per dozen, - \$100.00

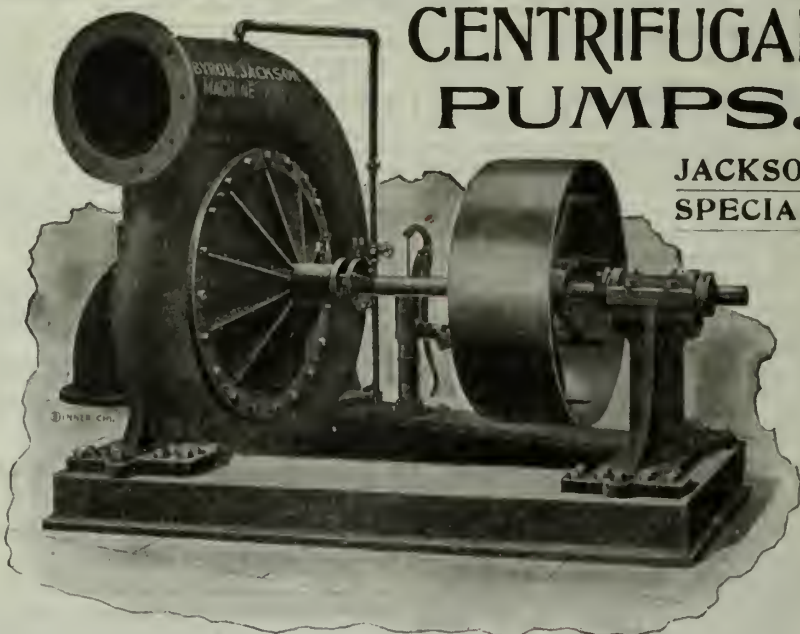
G. G. WICKSON & CO.,

34-36 Main St., San Francisco.



## CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

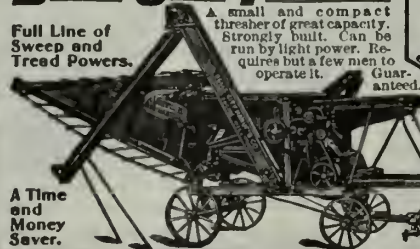


Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. THE BEST IS ALWAYS THE CHEAPEST.

BYRON JACKSON MACHINE WORKS, 411 MARKET ST. SAN FRANCISCO.  
Write for Catalogue E.

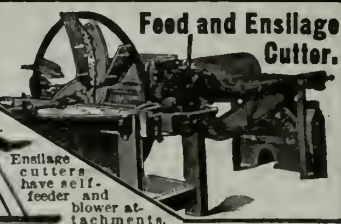
## BELLE CITY Thresher

Full Line of  
Sweep and  
Tread Powers.



A Time  
and  
Money  
Saver.

## Feed and Ensilage Cutter.



Ensilage cutters have self-feeder and blower attachments. Write for book about ensilage, illustrated catalogue and price list—free.

BELLE CITY MFG. CO.,  
Box 114, Racine, Wis.

## W. & P. ROOF PAINTS. PLASTIC SLATE.

An unequalled coating for Roofs, Tanks, Flumes. Fire-proof. Hardens like slate. Cheap; durable.

## PACIFIC REFINING & ROOFING CO.

113 New Montgomery St., SAN FRANCISCO.

Ready Roofing.

Correspondence solicited.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 7.

SAN FRANCISCO, SATURDAY, AUGUST 15, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### In Mexico.

Out of the bustle of California's youth and progress it is restful to cast a glance at a country where nothing is in a hurry. It is becoming quite the thing to do this at close range by the railway excursions from San Francisco to the City of Mexico, which are usually arranged at Christmas time, but all cannot afford to take Mexico so seriously as that. A few camera sights may well serve those who cannot see for themselves. In the mountainous region of the State of Chihuahua there is a town called Parral which, during the 300 years of its life, has collected something like 20,000 people, of which not more than 1000 are foreigners, and they mostly Americans. The chief business of the place is mining and supplying miners' wants. The chief man of the town is Pedro Alvarado, the "peon millionaire," as he is called. Alvarado, who has become very wealthy the past few years, is credited with having made an offer to President Diaz to pay the Mexican national debt. While Alvarado has made a large amount of money, it is doubtful whether he ever made the offer credited to him, and it is certain that he could not have "made good," if such an offer had been ac-



Forest on Crest of Continental Divide, Chihuahua.

also restored a large Catholic church that was going into decay, at a cost of \$80,000. Alvarado is good to the poor, and is said to provide for all the beggars in Parral.

There seem to be considerable industrial advantages in the mountain district in Chihuahua and Durango. There is a good growth of timber generally throughout the mountains—pine, oak and madrona—and usually the country is well watered. Neither timber nor water is so abundant as it is in the mountain regions of California, but they are incomparably better than in Nevada and Arizona. Labor is cheap, but, of course, it is not so efficient as American labor.

The disadvantages are the difficulties of transportation and the isolation from the world that life there requires. An infinite amount of patience and hope, as well as considerable money and experience, is required for success in productive enterprises.

Out from Parral there is a narrow gauge railway, which extends to a fine body of timber and traverses an interesting agricultural country which finds local markets for its varied output.



Cathedral on the Plaza, Parral.



Street Scene at Guadalupe y Calvo.



Street Scene, Parral; Cerro de la Cruz in Background.



Bridge at Parral, 300 Years Old.

cepted, for debt is one of the greatest things in Mexico. It seems to be a fact, however, that Pedro has a large vein of benevolence, though it usually takes a rather eccentric course. He is constructing a palace on the site of his birthplace, in one of the most squalid parts of the city of Parral. It is all of stone, which admits of most elaborate carving, which is all being done by native workmen. He has



Mala Noche, An American Home in Mexico.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON. Horticultural Editor

San Francisco, August 15, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Forest on Crest of Continental Divide, Chihuahua; Cathedral on the Plaza, Parral; Street Scene at Guadalupe y Calvo; Street Scene, Parral; Bridge at Parral, 300 Years Old; Mala Noche, an American Home in Mexico, 97.  
EDITORIAL.—In Mexico, 97. The Week, 98.  
QUERIES AND REPLIES.—Macaroni Wheat; Alfalfa and Dodder; A Bermuda Grass Lawn, 98. Thrips on Field Crops; Non-Bearing of Prune Grafts; To Hold Life in Young Vines; Street Trees Killed by Illuminating Gas; Flgs and Corn Ear Worms; Chestnuts for the San Joaquin; Oak Clearings—Roots for Prunes, 99.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending August 10, 1903; Temperature and Rainfall, 99.  
AGRICULTURAL SCIENCE.—Fertilizing the Vineyard, 100.  
THE VINEYARD.—California Wine Making, 100. An Important Meeting at St. Helena, 101.  
FLORIST AND GARDENER.—More About California Roses, 101.  
THE SWINE YARD.—Stamping Out Hog Cholera in Sacramento County, 101.  
ENTOMOLOGICAL.—Horticultural Commissioners and Inspectors; Preliminary Observations at Watsonville, 102.  
FORESTRY.—Saltwater and Coal Oil for Stumps, 102.  
THE DAIRY.—The World's Fair Cow Demonstration, 102.  
THE BOTANIST.—Yerba Santa, 102.  
AGRICULTURAL REVIEW.—103  
THE HOME CIRCLE.—Sunday; What He Knew About Girls; The Old Brown Gourd; Character in Cats, 104. What Is Good? Nonsense; The Woman Who Swims; Gymnastics and Health; Why One Foot Is Larger Than the Other; Domestic Hints; Hints to Housekeepers, 105.  
THE MARKETS.—Produce Market; Fruit Markets, 106.  
THE VETERINARIAN.—Contagious Abortion in Cows, 108.  
FRUIT MARKETING.—European Fruit Crops and Markets, 110.  
MISCELLANEOUS.—An Irrigation Incident; New Patents, 111.

## The Week.

Only about two weeks remain before the opening of the State Fair. An unusually strenuous effort is being made to focus interest in this exhibition of the State's resources and industries. The directors are working like beavers to attract the attention of the people. Various promotive organizations like the State Board of Trade and the California World's Fair Commission are lending all the aid they can command toward the popularization of the project and toward the winning of exhibits and attendance. The Board of Agriculture has passed its property over to the State and apparently everything possible is being done to win public approval and support. We trust a notable success will result. On the foundation of such success this year something effective can be done to improve the State Fair in the future and to bring it more into harmony with the producing and educational interests of the State. If the fair should be allowed to fail after such an effort the conclusion would be almost irresistible that the people care little for it and that it had better be forsaken. This would place California in the position of abandoning an annual exposition of its progress which would, in the mind of the country at large, remove California from the list of progressive States, and, with interests depending so greatly upon agricultural development, this would be exceedingly unfortunate and injurious. Even if it be granted that the State Fair has largely lapsed during the last two decades into a display of jockeying and clap-trap, and, therefore, lost public favor, the effort now should be not to kill it by neglect, but to restore it to its old excellence and prosperity. This we conceive to be possible, if those who desire such elevation and improvement will take hold of the matter vigorously now, support the heroic effort of the new board of directors and then insist upon better things for the future. Send for the new premium list which has just been printed and let each one see what he can do to make the coming fair worth seeing.

Speculative wheat dropped 5c since our last comments, but has recovered part of its loss. Spot wheat is still strong at the advance, but buyers are shy. A spot charter for wheat and barley to Antwerp has been taken at 15s 3d. A steamer has taken 650 tons of wheat to Peru and two ships have cleared for Europe carrying 2165 tons of wheat and 6381 tons of barley, which, with 30,000 barrels of

flour for China, bring the value of the week's exports to about a quarter of a million dollars. Feed barley is weaker, but export barley is unchanged, though buyers are hammering at it. Minor cereals are unchanged, except a slight advance in rye. Beans are unchanged and steady, movement moderate and offerings small. Millstuffs do not change, but supplies are larger, mostly from the north. There have been heavy arrivals of hay, mostly already bought in the interior; prices of the lower grades are tending toward the higher figures. Beef and mutton are unchanged and hogs are lower, in sympathy with Eastern weakness. Butter is unchanged, but is cleaning up better and accumulations are less; Eastern is selling freely. Cheese is unchanged and weak for flats, except fancy, mild, new. Small cheese still has a loud call on prices, and is scarce. Eggs are unchanged, the trade running on storage and Eastern supplies; a few fancy fresh bring high prices in a small way. Poultry started firm, but closes lower. Holders seem to be expecting much from the Encampment—perhaps exaggerating the requirements. Potatoes are in light receipt and have a higher range—but the trade is only local. Onions are less active; 424 crates have gone out to Australia. Fine, clean Bartlett pears are selling well, canners and shippers taking them freely. Apricots are running out, with canners seeking them, at their own figures, however. Peaches go the same way. Plums are in light supply and selling fairly to canners. Nectarines and figs are scarce. Oranges and lemons are unchanged. Dried fruits are firm—holders high in their views. Apricots have the advantage. Old prunes are mostly cleaned up. Almond sales are reported in detail in our market review. Honey is in moderate receipt and not active. Hops are more talked about and there seems to be more doing across the mountains, both north and east. A shipment has been made to Australia. A shipment of 121,000 pounds of wool has gone again to New York; local markets are nominal.

Eastern fruit shipments have now reached a little beyond last year's figures at this date, and sales at Eastern points are encouraging, as a rule. The Earl Fruit Company is proceeding with its shipments of fresh fruits to British markets. One day last week there went out from Sacramento the largest single export shipment attempted by one firm, going out to-day in a special train of ten carloads of 26,000 pounds each, or more than a quarter of a million pounds of peaches, plums, prunes and pears. Five carloads each are destined respectively to London and Glasgow. This is the fourth London export of the season and the second for Glasgow by the same firm. There will be distribution of these fruits across the water to fifteen or twenty cities outside of the large centers, in the hope of stimulating a demand for increasing quantities. The early shipments to England this year have sold at encouraging prices.

Do not forget that there will be two international events in California next week. While the G. A. R. is displaying its gleaming bayonets in San Francisco, even sharper points will be in evidence in Los Angeles, where, on August 18, the 34th annual convention of the American Bee Keepers' Association will assemble for a three days' session in Blanchard Hall. There will be on the evening of August 18 a reception tendered the delegates by the California association, and the guests will be welcomed by Mayor Snyder and President Rule of the Chamber of Commerce. During the following three days there will be important papers presented and discussions had. There should be a grand rally of California bee people.

We may be pardoned for feeling puffed up with family pride because the Wickson plum from California is selling this year in Eastern markets at the top of the whole plum list—distancing even the immortal Washington plum. We are sorry for George: he ought to have stayed in the cherry line, where he was a conspicuous success. But, after all, we can't claim much for ourselves either: Mr. Burbank did it with his little hatchet.

One might find evidence of the liberalization of Turkey in the fact that the importation of American pork is no longer prohibited.

## QUERIES AND REPLIES.

### Macaroni Wheat.

TO THE EDITOR:—I would like to know whether macaroni wheat is likely to be a profitable wheat to grow here, what kind is the best and where seed can be gotten? If it fails to mature as grain, will it make a good hay? And any other useful information, especially as to a market for the grain. I was thinking, if the reports of it are as good as some claim for it, I would get some of my neighbors to club together and put in a considerable acreage for next year's crop.—READER, San Gabriel.

Macaroni wheat has a very hard, dark-colored kernel, rich in gluten and containing less starch than the ordinary California wheat. In some parts of California these dark wheats become lighter colored and more starchy each year, consequently less valuable, from a macaroni point of view. Manifestly, the macaroni wheats of commerce from this coast, if we produce any, will come from those parts of the State where this tendency is least likely to be manifested. For this reason all wheat growers in California who are not sure that they can produce a good, dark-colored wheat continually, should be careful about undertaking a crop of it at once. It is enterprising to make a small sowing and note how the crop compares with the seed—keeping a little of the latter for that purpose. Until this assurance is gained, we doubt whether it would be desirable for your district to make much of an effort in the proposed direction. You could get seed enough for trial by corresponding with the Division of Seed and Plant Introduction of the United States Department at Washington. Larger quantities for commercial sowing would have to be secured from wholesale seed dealers. There is a local milling demand for a more glutinous wheat than the common California crop, and a certain amount of dark wheat is brought into the State for mixing. It requires wider trial to determine whether a certain amount of this kind can not well be grown here. The coast districts are best for this purpose, for the tendency to become starchy seems to be more rapidly advanced in the interior valleys, where the best white wheat comes from. Of course, the whiteness of the wheat from the interior valleys of the whole Pacific coast is a commercial advantage; still there remains the chance for profit in growing more glutinous wheats in districts where they preserve this character.

### Alfalfa and Dodder.

TO THE EDITOR:—What is the probable outcome to be of alfalfa seed infested with dodder? 1. What are its chances of living through the winter attached to the stubble below the mower? 2. What are the chances of the seed coming up and maintaining itself in a good stand after the first year? If the alfalfa does not crowd it out, what are we to do? It is quite thick in some "pure" Utah seed.—GROWER, Ceres.

The dodder plant does not live through the winter, for before the winter has come it has dropped its seed, which lies on the ground until the warmth of the springtime; then a new dodder plant comes from this seed and attaches itself to the new growth of the alfalfa. Proceeding in this way, the dodder multiplies until the ground becomes fully charged with the seed and the alfalfa is practically ruined. Alfalfa can not crowd out the dodder. When a field gets badly infested the only thing to do is to break it up, plowing very deeply to bury the dodder and reseeding with clean alfalfa seed. If the dodder plants only appear here and there the first year, they can be checked by cutting the alfalfa before the dodder ripens, allowing it to dry, and then scattering some straw and burning off the spot, breaking it up afterwards and using fresh seed. This is only practicable when you have a few spots. If the field is badly infested the previous method must be adopted, and seed which is free from dodder must be secured.

### A Bermuda Grass Lawn.

TO THE EDITOR:—What is the best method of planting and managing Bermuda grass seed to make a good lawn in this soil and climate? In Hanford, Kings county, it grows with little or no water.—READER, Fruitvale.

The best way to get a start of Bermuda grass is not to sow the seed, because it is seldom productive, but to get the running roots of the plant; that is, take Bermuda sod and cut up the roots into small pieces and rake them in just as you would seeds, and if moisture is present they will soon make plants.



Bermuda grass will stand a great deal of drouth. One objection to it is that it is impossible to get rid of it if it is once introduced, and it will spread in every direction most persistently. It becomes a great nuisance in garden or orchard land. One objection to it as a lawn plant is that it is turned brown by the frost and is ugly looking all winter. If, however, all the old dead stems are raked off in the spring time you will get a very good start of new shoots when the warm weather comes on. You will find very few people, however, who have Bermuda grass lawns who would advise you to secure one.

#### Thrips on Field Crops.

TO THE EDITOR:—I inclose a few cucumber leaves so you can see what harm the little pest called thrips can do. The pest cost me several thousand dollars during the two years past, and I do not know where I will land this year. I have found bluestone, paris green and lime the best.—PICKLE GROWER, Alameda county.

This minute insect is working a great deal of harm in California, operating widely all the way from garden plants to orchard trees, and it is a difficult insect to kill because to accomplish its destruction it must be touched by a corrosive wash and destroyed in that way. It cannot be successfully poisoned because it has no true biting mouth, but is rather a puncturing insect. The bluestone, paris green and lime might all kill it by contact, but none of them, theoretically at least, would be so effective as the kerosene emulsion. Kerosene emulsion made according to the formula which we have frequently published, and applied with a cyclone nozzle, working down among the low leaves and shooting up against the under-surface, ought to bring the kerosene emulsion to bear upon all the insects, and if you can do that a marked effect will be produced upon the plants. By the use of a proper pump with several men at the nozzles a considerable acreage can be covered in a day and the expense brought to the lowest limit.

#### Non-Bearing of Prune Grafts.

TO THE EDITOR:—On our ranch in Kern county we planted the Hatch varieties of almonds. One section has borne fine nuts and another scarcely anything. Four years ago last winter we grafted to prunes the section that did not bear. The grafts took splendidly and grew wonderfully, so the trees are fine to look upon; but, while they have blossomed well, we have not had enough fruit to pay to pick it. We know of no reason for this. These trees should bear as other prune trees near them do. What would you advise? The almond trunks are thrifty and about ten years old. Would you graft to peaches, cutting limbs below union of present grafts, or would you recommend something else? We have cut back and thinned the luxuriant growth of prune wood, but still no fruit.—S. J. CARROLL, President Palm Fruit Co., Santa Barbara.

We understand that you have grafted in the same variety of prune which you know bears well with you and not some other variety whose local bearing habit you do not know. If this is so, our conclusion would be that the strong almond roots are pushing the grafts into an active growth which does not admit of fruiting, and you are doing all that you can to prolong this barren period by cutting back the rank growth every winter, thus keeping the balance of power always on the side of the roots. Stop cutting back and thinning out until the roots are taxed to sustain the top growth, and then you will get effective blossoms and fruit. You can hasten the bearing condition by summer pruning or by stopping cultivation, so that the moisture supply will be less. Probably, however, the fruit will come all right if you stop winter pruning. Your trees are too husky.

#### To Hold Life in Young Vines.

TO THE EDITOR:—A farmer near here put out early in the season several acres in grape vines. We have had an unusually dry spring, and for that reason the young vines need water now to keep them alive until the early rains. Can you tell me how much water each vine would need? The water must be hauled, so it cannot be used too freely, and we wanted to know how small an amount of water could be used and yet good results insured. The land is good vineyard land.—ENQUIRER, Suisun.

The amount of water which will keep a vine cutting growing until the end of this season will depend very much on the nature of the soil; if it is rather heavy and retentive, very much less than if the soil is coarse and sandy. Taking a medium condition of soil, which

we presume is what you have in what you call "good vineyard land," about one gallon to each cutting would be enough, providing the soil opened a little so the water will sink in deeply and then is well hoed and pulverized around the cutting after the application of the water. This last operation is very essential. If rains should be late this fall another irrigation would probably be required in September.

#### Street Trees Killed by Illuminating Gas.

TO THE EDITOR:—I wish to learn if leaking illuminating gas, made from crude oil, has killed two umbrella trees on the sidewalk, under the following circumstances: The trees are eight years planted, 6 inches in diameter, doing well until, on May 25, new gas mains were put in, running a service pipe between them 6 feet from each tree. The earth is permeated with a heavy gas odor. The trees began in a week to wilt, gradually exuding gum from the root 7 feet up on such trees, until evident signs of death appeared, and now the leaves are falling, all turned salmon color and perfectly dry; the roots have decayed bark and no sign of life. There is a strong odor of gas still perceptible in the soil between the dead trees. I send pieces of bark at earth surface and from limb; also, a twig with foliage.—ENQUIRER, Suburbanville.

We have no doubt whatever that the illuminating gas destroyed your trees. It has been frequently reported that street trees have been killed by escaping illuminating gas, and it has been demonstrated by experiment that this gas is very deadly to vegetation. The fact that you noticed the earth permeated with the gas odor is demonstration of its presence in considerable quantities. The effect is produced by the destruction of the root hairs, which breaks the connection between the plant and the soil moisture and soluble plant food, and death and decay follow.

#### Figs and Corn Ear Worms.

TO THE EDITOR:—Is the Calimyrna fig displacing or likely to displace the White Adriatic? Our sweet corn is full of worms. Can you tell us what kind of an insect lays the eggs, and a way to prevent its laying the eggs or to kill it?—SUBSCRIBER, Le Grand.

The Calimyrna is certainly likely to displace the White Adriatic and all other white figs for the product of dried figs. It is already doing this, and, more than that, the White Adriatic is casting itself out in many places because of its defects from a drying point of view. It will probably always be grown to a certain extent in places where it dries well, and it also serves some purposes as a table fig. The worms in corn ears are the offspring of a good-sized brownish moth, with two white spots on its wings—the same moth which lays eggs to produce worms in the cotton boll. As for coping with this serious pest, you will find comments in the PACIFIC RURAL PRESS of June 20 and July 4.

#### Chestnuts for the San Joaquin.

TO THE EDITOR:—In your issue of June 28, 1902, you gave an illustration of a young chestnut tree along a roadside in the San Joaquin valley. Will you kindly furnish me with the address of the owner of the orchard? Also, in your opinion, which would be better for the purpose of border and shade trees, English walnut or chestnut? I have always supposed that chestnut demanded elevation to bear. In my Eastern home they were found in the high mountains. I own twenty acres in Stanislaus county, near Modesto, and will wish to set these trees on the border of a colony road 40 feet wide. Of the two kinds the chestnut is the more beautiful, I think.—SUBSCRIBER, San Jose.

We do not know who owns the trees you allude to. It was an interesting picture, showing the thrift of young chestnuts, and was selected for that reason, irrespective of ownership. Your impressions may be about right. Chestnuts bear best on the foothills east of the valley, but the trees grow well in suitable soils in the valley, and make very handsome shade trees. Where they do well they are handsomer than English walnuts. As for bearing, English walnuts of the French varieties will yield more returns than chestnuts, and more than the English walnut seedlings, which are largely from southern California.

#### Oak Clearings—Roots for Prunes.

TO THE EDITOR:—Some eight years ago we cleared land of oak trees and put out prune trees. Where the oak trees stood the fruit trees have died. Is there anything that can be done to prevent it, as every spring the trees die around, so the circle keeps getting larger? Is there any way that we can transplant them with success? What kind of roots would you recommend for prunes?—GROWER, Morgan Hill.

The cause of failure of your fruit trees where an

oak was removed is due to the communication of a root-destroying fungus from the decaying roots of the oak to the young roots of the fruit trees. This trouble will continue as long as those decaying roots are there. Proper treatment would be to dig or plow over the ground deeply and carefully take out all rotten roots encountered; then give the ground a good dressing with ordinary builders' lime, to be distributed by the rains this fall. This will counteract any acidity in the soil which is likely to occur under such circumstances. If this is done the ground can be replanted during the coming winter and spring with a very good chance of success, unless the roots are low and water stands over hardpan in the winter.

The best root for a prune tree depends upon the kind of soil; if it is rather heavy and shallow overlying hardpan or clay the Myrobalan root will be most satisfactory; if, on the other hand, it is coarse and light and deep and liable to dry out deeply the almond is the best root. The peach root is satisfactory for medium conditions of soil and depth.

## WEATHER AND CROPS.

### Report of the U. S. Weather Service for Week Ending August 10, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

#### SACRAMENTO VALLEY.

Cool weather prevailed during the first of the week, followed by high temperature in the latter part. Grain harvest is nearly completed and the crop is being shipped and sent to warehouses. The yield of wheat is below average in many places, but the quality is good. A fair crop of barley has been harvested. Hops have improved rapidly in the past two weeks, and in the Wheatland district will be an average crop; picking will commence on the 12th. Grapes and fruits ripened rapidly during the latter part of the week. Grape picking has commenced in some places; the yield will be very large. Fruit drying and canning are progressing, and some of the fresh fruit is being shipped to Eastern markets. Orange trees are putting on new growth and the crop looks well.

#### COAST AND BAY SECTIONS.

Cool, foggy weather prevailed in the coast districts and warm weather in the interior. Harvesting, thrashing and hay baling are in progress and will not be completed for some time, partly owing to scarcity of labor and machinery. Wheat and barley are below average, but generally of good quality, and hay is light. Sugar beets, beans and corn are doing well. Hops are not in very satisfactory condition and will be late; the yield will probably be below average. Grapes are commencing to ripen in some sections; there will be an unusually heavy crop. Nearly all deciduous fruits are yielding large crops, excellent in quality. Fruit drying, canning and shipping are in progress.

#### SAN JOAQUIN VALLEY.

Clear, warm weather prevailed during the past week, and was very beneficial to the fruit crop. Large quantities of fruit are going to the cutting and drying establishments, which are running to their full capacity, and heavy shipments of green fruit continue to Eastern markets. Grapes have made fine progress and are commencing to ripen, with prospects of a large crop. Citrus fruit is making excellent growth and the outlook is favorable for a large and early crop. Honey will be about three-fourths of a crop. Grain harvest is about finished and grain is being hauled to warehouses. Alfalfa hay is plentiful. Stock of all kinds are healthy and in good condition.

#### SOUTHERN CALIFORNIA.

Weather conditions during the week were about normal and favorable for crops; the fogs in the coast districts were beneficial to beets and beans. Grain harvest is completed in some sections and progressing rapidly in others. Wheat, oats, barley and hay are excellent crops in nearly all sections. Sugar beets at Anaheim are reported light, but there is a heavy crop in the Santa Maria district. The bean crop will probably be less than usual, owing partly to smaller acreage. Grapes are in excellent condition and a heavy crop is expected. Deciduous fruits are ripening; the yield will be about average.

#### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 12, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the Week.	Minimum Temperature for the Week.
Eureka.....	.04	.13	.23	.16	60	50
Red Bluff.....	.00	.00	.00	.04	105	62
Sacramento.....	.00	.00	T	T	98	64
San Francisco.....	.00	.00	T	.02	74	46
Fresno.....	.00	.00	T	T	108	58
Independence.....	.00	.00	.30	.08	98	62
San Luis Obispo.....	.00	.00	T	.02	84	48
Los Angeles.....	.00	.00	T	.03	86	54
San Diego.....	.00	.00	.92	.06	74	62
Yuma.....	.00	.04	.11	.26	104	76



## AGRICULTURAL SCIENCE.

## Fertilizing the Vineyard.

By PROF. E. H. TWIGHT, Viticultural Expert of the State University.

If we leave aside for the present the form under which we can apply the fertilizer, three questions need to be considered:

1. What relative quantities of nitrogen, phosphoric acid, potash and lime are needed by the vine, so as to utilize the maximum of those nutritive elements?

2. What quantities of these elements are offered by the soil?

3. For each fertilizer, what proportion is of nutritive value to the vine?

We will examine these different points successively:

1. In order to solve the first question, chemical analyses have been made in all countries and on all varieties of vines; we give an example of one of these to show how the averages can be made:

Production per Acre.	Phosphoric Acid.		
	Nitrogen.	Potash.	
	Pounds.	Pounds.	Pounds.
1,320 gals. of wine.....	2.08	10.36	....
1,478 lbs. of pomace.....	13.66	6.84	7.04
2,780 lbs. of green cane...	2.96	3.46	....
1,146 lbs. of dry leaves...	21.34	3.54	4.22
Total.....	39.94	24.20	11.26

If we take numerous averages of chemical analyses made in countries having similar climate and similar varieties to ours, and also making use of the analyses made at the Experiment Station at Berkeley, we can take as a figure to base our deductions the following table:

Nitrogen.....	43.31 pounds.
Phosphoric acid.....	10.70 pounds.
Potash.....	36.30 pounds.

If we represent by 1 the quantity of phosphoric acid absorbed by one acre of vineyard the three elements are in the ratio—

Phosphoric acid, 1 ... Nitrogen, 4.1 ... Potash, 3.5.

We can use this proportion if we are figuring a complete fertilizer.

2. Regarding the second question we were to consider, the analysis of the soil will give us some information as to the amount of the fertilizing elements it contains. These figures, together with the crop returns during the last few years, will help us to draw some conclusions as to the needs of the vines.

3. For each fertilizer placed in the ground only a small proportion can be assimilated by the vine roots; this is a point very little understood yet. In southern climates the absorption of nitrogen and potash is more considerable in a vineyard than that of phosphoric acid; nitrogen is absorbed faster than potash; it must also be mentioned that in a warm climate it takes three or four times less fertilizing principles in the soil than to produce a given quantity of wine. So that as regard to the quantity of fertilizers to be used we are unable to give exact formulæ, and have to be content with empirical formulæ that are based partly on the results of chemical analysis and partly on those of experience. In these formulæ we get a different ratio between the fertilizing elements than the one we quoted previously when we only considered the chemical analysis. Quoting two of the great authorities on the chemistry of vines, Professors Lagatu and Chauzit, we are given the following ratios:

Authority.	Nitrogen.	Phosphoric Acid.	Potash.
Lagatu.....	1	1	$\frac{3}{4}$
Chauzit.....	1	1	1.5

In California, where the soils are generally fairly rich in potash, we might follow the ratio

2                      1                       $\frac{3}{4}$

that would answer pretty well our vineyard conditions.

It must be remembered that the opportunity of fertilizing does not depend so much on the intrinsic richness of the soil than on the possibility of having the fertilizer utilized, so that the constitution of the soil and its adaptation to grape culture has a great importance. A good alluvion soil will answer readily to fertilizers, not because the soil lacks in richness, but because it will offer the fertilizer readily to the root system. If that alluvion soil happened to be poor the results would be still more striking.

In other words: If we have a vineyard where the soil is well adapted to that culture, where accidents (frost, drought, flood) are not to be feared, we will fertilize heavily, whether the soil be rich or not from a chemical standpoint. The returns will pay well. If we have a soil not well adapted to grape culture, hard to work or exposed to accidents, we will only fertilize in a moderate way to keep up the same condition of bearing, for the return of the advance made to improve the crops could hardly be relied upon.

From the above remarks, tables and proportions, we may then decide on the following formulæ:

## FERTILIZING ELEMENTS PER ACRE AND PER YEAR IN A FAIRLY RICH ALLUVION SOIL.

Element.	Average.	Intensive.	Very Intensive.
	Pounds.	Pounds.	Pounds.
Nitrogen.....	50	67	100
Phosphoric acid...	25	33	50
Potash.....	18	24	36

The amount of gypsum to accompany these fertilizers when the soil contains a fair amount of lime ( $\frac{1}{100}$ ) would be estimated at 800 pounds. The method that has given the best satisfaction is to spread the fertilizer in a circle around the vine, not too close to the stump; a cup is dug around the vines; the fertilizer is placed on the outer edge of the cup (not all over) and the cup is filled up. It is good to make the cup fairly deep on account of the insolubility of potash and phosphoric acid in the superficial layers of the soil.

We are now ready to figure out our fertilizer; let us suppose that we are going to use the intensive formula given above and that we will take the ratio (2:1: $\frac{3}{4}$ ); let us suppose that we will take for supply of the fertilizing elements: for nitrogen, dried blood (at 13%) and nitrate of potash (at 13%); for the potash, nitrate (at 44%) and carbonate (at 60%); for the phosphoric acid, superphosphate or slag (at 15%). Starting with nitrogen 67 pounds, phosphoric acid with ratio (1) will be 33 pounds, potash with ratio  $\frac{3}{4}$  will be 24 pounds.

Ratio.	Elements.	Amount Lbs.	Source of Supply.	Amount Per Acre.
2.....	nitrogen.....	67	dried blood (63.47). nitrate potash (3.53).	13    488 13    27.21
$\frac{3}{4}$ .....	potash.....	24	nitrate potash (12). carbonate potash (12).	44    ..... 60    20.00
1.....	phosphoric acid.....	33	superphosphate.	15    220.00

Of course the percentage would vary according to dealers.

The dry blood, nitrate and carbonate are mixed together, the superphosphate is kept separate; a little measure made from a tin box is prepared so as to hold the proper amount for each vine, and the placing of the fertilizer is done in two operations or with two gangs of men—one applying the mixture, the other the superphosphate.

This formula has been made complicated in order to show how the figuring is done. As we said before, it would apply to a good soil in which the proportion of the fertilizing elements are fairly good and in which we find a fair amount of lime.

If our soil should not be fairly provided with lime it is a good thing to use the basic slag instead of superphosphate; the slag brings to the soil a large proportion of lime and magnesia; it brings the phosphoric acid in a shape that, in those soils, is as assimilable as the superphosphate would be in soils containing plenty of lime. The slag has the advantage of helping the nitrification of the soil, which, when the lime was deficient, is always slow.

In the soils that are not particularly rich in lime it is very good to replace the nitrate of potash by nitrate of soda, furnishing the potash, if it is needed, in the shape of carbonate of potash.

Figuring a fertilizer for a vineyard planted on land that is not rich in carbonate of lime we may give the following formula:

LOAM NOT RICH IN LIME.					
Ratio	Element	Amount, Lbs.	Proportion for Each Fertilizer.	Fertilizer.....	Pounds Per Acre.
2.....	nitrogen.....	67	20 lbs. dried blood.....	13.....	154
			27 lbs. roasted horn.....	14.....	193
			20 lbs. nitrate soda.....	15.....	133
$\frac{3}{4}$ .....	potash.....	24	24 lbs. carbonate of potash.....	60.....	40
1.....	phosphoric acid..	33	33 lbs. basic slag.....	15.....	220
	Gypsum.....				$\frac{1}{2}$ ton

In a heavier soil the proportion of dried blood and nitrate of soda might be increased and the roasted horn decreased; in a lighter soil the roasted horn and nitrate of soda might be replaced to advantage by oil cake.

The use of good stable manure as a fertilizer is very popular among vineyardists, and certainly manure has some good points; it furnishes humus, it acts on the physical composition of the soil, but it is poor in fertilizing principles and expensive to spread and to bury under. So that stable manure is more generally used in vineyards about once in three years and chemical fertilizers are used the two other years. Going back to our formula, we see that we need sixty-seven pounds of nitrogen, it will take over seven tons of manure to furnish the proper amount of that element, and then we will be lacking in phosphoric acid and potash. If the soil is deficient in lime it is good to supplement the manure by spreading gypsum over it in the field (not on the manure pile). It is frequent in Europe to use fifteen tons of manure to the acre and even more.

## THE VINEYARD.

## California Wine Making.

A few weeks ago we gave the leading portions of Mr. H. Lachman's contribution to Dr. Wiley's report to the U. S. Department of Agriculture on the wines exhibited at the Paris Exposition. Mr. Lachman refers directly to California practice.

PROFITABLE WINE GRAPES.—There is in California as much grape country upon which suitable wine can be raised as the entire wine-producing area of France. Farmers with a variety of crops—prunes, peaches and cereals—have often stated that a vineyard, on an average five-year basis, paid better than any other crop; that is, when they have sold their grapes at the ruling price and have not speculated on the wine market.

Wines should never be put on the market unless they are perfectly clear; that is, they should hold clear and show brilliant before a candle. Only wines not less than eighteen months old that have been properly made can stand this test. This age refers to bulk goods only, and such wine is too young for bottling.

TASTING.—Some wines will not precipitate and clear themselves, because they still contain a slight amount of gas. To determine whether there is any gas in a wine take a mouthful and slowly move the tongue through the wine to the palate, twirling it at the same time. A prickly sensation at the tip of the tongue denotes the presence of carbonic acid gas. It has the same effect, but not so strong, as carbonated waters.

Should the wine be perfectly dry, but with a trace of gas, it should be aerated by running it through a faucet and bringing it in contact with the air. Should there be any sweetness discernible to the taste, it is not advisable to bring the wine in contact with the air, but to hold the gas in it; and when racking the casks should not be sulphured, as the sulphur is likely to check fermentation. The casks should be filled to the bung not less than twice a week until the wine becomes thoroughly dry. The saccharometer in common use will register at zero, although a little sweetness is still discernible to the tongue. Consequently one can not rely upon that instrument as to a wine being dry.

In tasting there is the "first taste," the "second taste" and the "good-bye," after the wine has left the mouth. On the "first taste," the body or extract is detected; on the "second taste," the acids, free and acetic, and on the "good-bye," the tannin, flavor and defects are caught. The musty taste is not noticed until fully half a minute after the mouth has dried.

The most difficult branch in the handling of wine is the art of blending, which should be assisted by chemical analysis, as it is the only check showing that the taster is correct in his judgment. A taster should never attempt to judge wines if he is out of condition. An experienced taster should be able to tell the alcohol, extract, and free and volatile acids, to detect any blemish, and tell whether a wine has been corrected by the use of lime, chalk or salt. This requires constant practice. There are so many tests to make on wines that comparatively few can be made in the laboratory if each sample is to be analyzed for all its ingredients.

Many varieties of grapes are discernible by smell, but mostly by the flavor on the tongue. Grapes like cabernet and semillon, with their too pronounced flavors when new, are generally used for blending for finer grades, and do not develop until the second or third year.

BOTTLING.—The bottling of wines is the last handling. It is the only proper method of distributing and the least considered, although it is the only way of holding the identity of brands, which, owing to the uncertainty of protection, has received no encouragement.

There is more expense in putting wine on the market in glass than in any other form, the cost of the cover and handling being a considerable percentage of the value of the product. It is safe to say that of the large amount of wine put up in bottle much is too young. No red wine should be bottled under three years and no white wine under four, and not then until they are thoroughly matured and perfectly brilliant. This is usually determined by a candle test; that is, by holding a candle behind a glass of wine and noting whether the flame burns brilliant and that the little red tip on the end of the wick is plainly discernible through the glass. Another method pursued is to place the finger in front of the candle light, behind the glass. If the outline of the finger is sharply seen through the wine without any shadow it can be safely bottled.

The only thoroughly safe way is to make a test by bottling two or three bottles and locating them in different places; exposing one to light, another to heat and the third to draft. Should the wine show no change and hold clear for a week or ten days, it is safe to bottle. No general rule, however, can be made for all wines. Some mature sooner than others. Some take three years; others five. A great many



go backward after three years if not properly made. California dry wines that have been bottled for twenty years have been found to be perfect. A great many bottled wines that are ten years old are being shipped out of California to-day.

The bottles should be perfectly clean and thoroughly dried before filling, and the corks should be of the best quality. In bottling, wines should be kept away from the air. The best way is to fill direct from the cask through a faucet.

In selecting bottling wines, the taste as well as the eye must be considered. Wines should be acclimated to the cellars in which they are stored before they are bottled, which takes fully six months; and two rackings in their new home are necessary before bottling should be attempted.

**VARIETIES OF WINES PRODUCED IN CALIFORNIA.**—Owing to the very many foreign varieties of grapes grown in California, and the different soils, wines similar to those of any country may be produced.

In the vineyards away from the coast, protected from the ocean winds by two mountain ranges, where the air is filtered through pine and redwood forests, and tempered by fogs, similar light wines to those of Germany and France may be made. The same varieties of grapes that the Rhine wine makers and the French produce their wines from are grown, and wines are manufactured on the same lines.

In the southern part of the State, where the land is sandy and the vineyards are far from the coast and not reached by ocean fogs and winds, the same type of wine as is made in Spain and Portugal is produced, and the process of manufacture is identically the same. California wines are never strengthened by blending with those of another country.

White grapes grown on flat lands with heavy soils produce a heavy growth and give quantity, while rolling lands produce a fine grade, and a hilly or mountainous country gives the higher flavors. The white wines made from the grapes grown in Livermore valley on gravel or lime formation, the bedrock being not over 5 or 8 feet from the surface, have a different character altogether from the white wines from our other dry wine districts. A blend of two-fifths semillon, two-fifths sauvignon blanc and one-fifth muscat de bordelais from this section produces a sauterne type similar to that turned out by French bottlers. The red grapes grown in Livermore produce an altogether different type of red wine from those produced in other districts.

**PORT TYPE.**—Wines of the port type are manufactured on the same lines followed in southern Europe—that is, by fermenting the juice down to about 60° to 10° sugar and fortifying it up to 20% alcohol. A great many manufacturers try to keep their alcohol below this number, which is a mistake. Any dealer who wants to age a wine of this kind that is over three years should never store it away under 22% in alcohol.

**SHERRY TYPE.**—Wines of the sherry type are made by fermenting white must down to about 4° of sugar and fortifying it up to about 20% to 21% alcohol. It is then baked by the sun in cooperage ranging from 50 to 160 gallons in a building whose roof and the side most exposed to the morning sun are glass. The temperature in this style of a sherry house goes as high as 140° F. and is kept steady by the assistance of a furnace at night. Another method of baking the wine is to store it in a room built for the purpose, generally of brick, heated either by steam or hot air. In the latter process it is always advisable to reach 140° at once, and when drawn off it should be cooled to about 60°.

Should these wines be held from five to ten years, they will have the same flavor as is found in the Spanish article. No artificial flavor can ever equal the flavor of age. California is more backward in sherry types than any other wine produced in the State, on account of not allowing them sufficient time to develop their flavor.

**MALAGA TYPE.**—This wine is produced by taking a very sweet grape on the style of the trousseau, oftentimes boiling the must, thus producing a very heavy-bodied wine. It is then either baked in the sun or heated in the oven for a time.

These wines are produced by allowing the grapes to shrivel on the vines, becoming partly raisin, and fortifying up to 20% alcohol, the same as with the sherry types. The grapes selected contain a little more acid and are mostly of the muscat varieties blended.

**SPARKLING WINES.**—Champagne types can be produced in California, although fully \$1,000,000 has been lost in experimenting. This is due to the fact that the manufacturer did not select his grapes nor his wines for the purpose, usually trying to make it out of old wines, or wines that were between 12 5/2 and 13.5% alcohol, which is too high.

In the manufacture of the champagne type the grapes should be especially selected and the wine carefully made. No cuvee should be bottled that goes over 10% in alcohol. We raise a pinot, a red grape from which red wine should never be made, a bulgar whose acid is too pronounced by itself, a green hungarian, and a verdal, besides other varieties that ripen at between 18° and 20° sugar, which are bound to make a satisfactory champagne type if properly handled. High alcohol wines continue to throw a deposit for too long a time, and by the time they are

ready to be disgorged they have taken on a hard taste.

Labor is also a handicap in the manufacture of this article. There are no mechanical contrivances for handling each bottle. The riddling, disgorging and recorking are altogether dependent upon hand labor, and in this country the men are paid about twice as much as those in Europe, and are not as skilled in this branch. The average cellar man in California is paid at the rate of \$2 per day, or between \$50 and \$60 per month. Experienced help often receives as high as \$3 a day. Wine superintendents and wine makers average \$100 per month.

#### An Important Meeting at St. Helena.

TO THE EDITOR:—At the instigation of a number of wine men in my district I have called a pure wine meeting to be held at St. Helena on Saturday, August 15. The object of the meeting is to obtain a general discussion on the subject of impure wines and to secure the consensus of opinion of those engaged in the wine industry as to the best method of dealing with an evil that is ruinous to the wine business of California. It is my intention to obtain national legislation, if possible, that will stamp out the abuse. This can be done through the power of taxation that is possessed by the Federal Government.

Invitations have been extended either generally or specially to all the wine and grape men in the State, and the indications are that we shall have a large and enthusiastic meeting. We would appreciate very much the hearty co-operation of your valuable journal. I sincerely trust that you will find it convenient to be with us on the above occasion.

It will be of great aid if we can get public opinion behind the measure in the next Congress. So far as I am able to learn, there will be no opposition to such legislation, though it may be covertly fought by those who are so blind as to engage in the manufacture of a spurious article.

Trusting that you will feel a deep interest in this movement and give us the benefit of your valuable assistance, I beg to remain,  
THEO. A. BELL.  
Napa, August 6.

We are very glad to participate in this undertaking, as Congressman Bell invites us to do, and to urge upon all our readers interested in viticulture to give heed to this announcement and to attend the meeting. We are sorry we did not have earlier notification, but all to whom Mr. Bell's letter comes in time should assume a burden of responsibility in the matter. No doubt there will be later meetings, but the time to be in the movement is at the beginning.

#### FLORIST AND GARDENER.

##### More About California Roses.

In addition to the comments which we printed two weeks ago in answer to the Oregon claim for precedence in rose growing, the following notes given to the Sacramento Union by Mr. McWilliams, a florist of the capital city, are of wide interest:

The conditions here as compared with conditions there are all in our favor. Portland is a lovely town, they tell me, and Oregon is all right; but when they claim to beat us in rose growth they talk through their headpieces only. There are two great divisions of the rose family—the tea rose, or ever-blooming, and the hybrid tea. The hybrid perpetual is the rose Oregon figures on. In one month in the springtime it comes on gloriously, but after that weakly and not reliable. I know the climate of every State in the Union as to effects upon rose growth and development, and I am not bold in saying that I understand the subject well, since you ask me the question direct as to my capability to judge. But evidently your Mr. Levinson is not a practical man as to floriculture. He needs to serve an apprenticeship before he talks about Oregon beating California in rose culture, either in quality, or quantity, or strength, or fragrance, or delicacy, or in length of rose season.

"Up there they can grow the ever-blooming in houses—the tea rose order of which I spoke. They can trust them to the air, even; but with the first frost it is come indoors or away they go. Even in extreme northern California, as up in north Siskiyou and Humboldt, it is too cold and the season too short for high-class rose growth."

"In the tea rose or ever blooming class, what roses are to be named?"

"Oh, many; as for example the Niphetos, Papa Gontier, Pearl de Jardin and so on. In the hybrid tea you may class the American Beauty, the La France, the Madame Caroline Testout, etc."

"As to seasons, well, twelve months in the year we grow roses in California; not at all points, perhaps, but we have them, and enough to smother Oregon in. Why, drop out the Sacramento valley if you will—but I do not—and take Sonoma, Marin, San Mateo, Santa Cruz, Monterey and clear down to Riverside and Los Angeles, and the world has no-

where any equal to us in rose capacity, in elegance, fragrance, delicacy, color, strength and vitality generally. Go to Golden Gate Park, go to Menlo, go to Monterey, go to the south counties, go to any coast county nearly and see what California does in rose growth, and then let Oregon sing small.

"Hold on. Here is one thing more to be noted; it's worth it. If Oregon is so much superior to us in rose culture, why is it that we florists right from this town and from San Francisco ship to Oregon roses in quantity and variety? From the first of April we ship in great quantities—that ought to settle it."

And it did with the representative of the Union, who had contemplated calling on others to evolve opinions, but became convinced that Oregon is not in it in the rose sense, and that California is.

#### THE SWINE YARD.

##### Stamping Out Hog Cholera in Sacramento County.

At the last meeting of the Supervisors of Sacramento county Dr. A. M. McCollum, County Veterinarian, submitted a report of his labors among the cholera afflicted droves of hogs, and his signal success in checking and stamping out the disease in every instance. Dr. McCollum reports:

**COSUMNES RIVER.**—In the latter part of June a serious outbreak of hog cholera was reported in the vicinity of Cosumnes, and under instructions from the chairman of your honorable board I visited the infected ranches, three in number. I was informed that prior to my arrival something in the neighborhood of 250 hogs had died from the contagion. I diagnosed the disease as hog cholera, and that judgment had been concurred in by State Veterinarian Blemer, Professor Ward, Bacteriologist of the College of Agriculture of the University of California and by Professor Moore of Cornell University, New York.

On my arrival at the infected ranches I immediately had constructed a trough 18 feet long, 3 feet in depth and 2 in width, and prepared a solution of sulphur twelve pounds, lime twelve pounds, formalin two pounds, carbolic acid five pounds. The sulphur and lime were boiled together, and afterward the other ingredients were added. The trough was filled with water and the solution poured in. I then proceeded to dip all the hogs, separating the sick ones from the well as they came out. This process was gone through with every third day for the first two weeks, and then at less frequent intervals until it was apparent that the disease was effectually stamped out.

As the result of this treatment there was not a single case of infection afterward, and out of 108 animals treated eight only of the sixteen ones that were infected died.

**COUNTY HOSPITAL.**—Early in July I went to the County Hospital under the direction of the chairman of your board, it having been reported that hog cholera had broken out there. I found that the sanitary condition of the pens and surroundings was anything but good. I had a fence constructed to keep the hogs from wallowing in the sewage that came from the hospital. I was informed that there had been a loss on the county farm of about thirty head from the disease. I immediately had constructed a dipping trough, and pursued the same line of treatment that I did at Consumnes on that farm, as well as on the one adjoining, where there were also infected hogs. The result has been that there has not been a single new case and not a subsequent death.

This is the first item to my knowledge that this dip and process has been used, and I feel warranted in the statement that it is an unequalled success. I feel satisfied that had it been employed earlier a great many animals would have been saved. The effect of the treatment on the well hogs was very noticeable, and would indicate that, independently of its value as a safeguard against infection, it improved their general condition. The construction of a trough and the occasional dipping of the animals in the solution would, in my judgment, be a profitable investment for hog raisers.

**LETTER FROM DR. WARD.**—Dr. McCollum appends to his report a letter from Dr. Ward, the veterinarian, connected with the Agricultural Department of the State University. Dr. Ward says:

As arranged for by you, Dr. Moore and myself, in company with Dr. McCollum, visited the ranches on which the reported outbreak of hog cholera was raging. We found that there were no seriously sick animals, and most of those still living were in a state of apparent health.

By the consent of the owner we killed and examined one small shoat that was apparently recovering from the disease. This examination indicated that the animal was recovering from hog cholera. We found that the precautions to prevent the spread of the disease to other ranches that we could suggest had already been anticipated and put into practice by Dr. McCollum. His method of dipping and separating the well from the sick animals is to be highly commended.

Unfortunately for us, there were no suitable an-



imals for examination by which we could make a positive bacteriological examination to determine the nature of the disease. The most favorable specimen was an animal nearly restored to health. Healing lesions and the description by the owners and Dr. McCollum indicate that the diagnoses of hog cholera was accurate.

## ENTOMOLOGICAL.

### Horticultural Commissioners and Inspectors.

By COMMISSIONER E. L. KOETHEN of Riverside, at the University Farmers' Institute at Long Beach.

The important duties of the Horticultural Commission are recognized to be of such vital importance to the horticultural communities of the State, and the importance of maintaining a strict quarantine against insect enemies are questions so thoroughly grounded in the minds of fruit growers of the State, that it is no longer necessary to emphasize the necessity of maintaining the commission. But the careless manner in which we allow the appointment of untrained men, and the removal of efficient ones for political reasons, indicates a lack of appreciation of the qualifications necessary for greatest efficiency.

We must bear in mind that it is not only the enemies already established within our borders that are to be combated, but there are hundreds of others that if once introduced would be a menace to the fruit industry, and this is true of the agricultural sections as well, only perhaps to a less degree. So that to be efficient as a commissioner or inspector, the incumbent should not only be familiar with those forms of life already established in the State, which are either injurious or beneficial, and know the remedies needed for eradication of the undesirable ones, but he should be able at a glance to tell whether a new arrival is "friend or foe." He should be a keen observer with a trained eye. He should know something of the life history of the most prominent denizens of our orchards, and what pests have been injurious to orchards or crops of like nature in other States of the Union, in order to be more alert for their appearance in his district. He should be a man of sufficient business acumen to deal wisely with growers, and manage expenditures wisely. In short, the commissioner should be more than a mere political henchman, and should be especially qualified for his work, and, being such a man, his retention in office should be during good behavior, as there is much to be learned that experience alone can provide. These same remarks apply to the inspectors, except, perhaps, that the business part of his duties are less exacting. That many appointments of a purely political nature have been made in the past, any many removals for political reasons have occurred throughout the State, very much to the detriment of the horticultural interests of the commonwealth, are notorious facts that all will acknowledge, and it is time that we, the fruit growers, demand such legislation as will afford us a remedy.

I would suggest that the fruit growers now assembled select a committee to whom shall be entrusted the duty of preparing a bill to be presented to the next Legislature, with the co-operation of all the Senators and Representatives from the fruit growing districts of southern California, and that this committee be now instructed as to the provisions of that bill.

Perhaps the most needed reform is in the manner in which the appointments are to be made, so that incompetent applicants may be excluded.

When a vacancy occurs let the applicant present to the Supervisors a petition signed by not less than twenty-five bona fide growers of the leading product of the district in which the vacancy occurs. Such applicant or applicants, if there be several, must then be subject to examination by the State Quarantine Officer or his deputies, whom he may appoint, said examination to be so conducted as to test their qualifications as outlined above, and not until these requirements are complied with should the applicant be eligible to appointment by the Supervisors.

Further, it appears that there is a constitutional provision "That in appointive offices where the term of tenure is not specified the appointive power shall have the power to terminate such appointment at any time." In order to remedy this defect I would suggest that the tenure of office of Horticultural Commissioner shall be placed at four years, subject to removal for incompetency or malfeasance in office, and that the term for inspectors shall be for two years under the same terms.

My reason for selecting the State Quarantine Officer as the examiner is in order to remove this duty as far as possible from political influence, and this was selected from a number of methods that suggested themselves. In this petition provision I think we have a safeguard that men of recognized ability shall be applicants for examination, as we can conceive how a man might pass a creditable examination and yet be unfit for the office; and still the Supervisors' hands would be tied if he were the only applicant.

My object in making a difference in the term of office of inspectors is in order to provide against the possibility of an outgoing commissioner appointing inspectors who would be uncongenial to the incoming

commissioner. It would also have to be so worded that in case of reduction of working force it would be sufficient cause for the removal of inspectors, perhaps in the order of their appointment.

As to the reduction of the number of commissioners to a county, as suggested by Prof. Cook, that may do in some counties, but I hope no law will be presented that will make the reduction to one compulsory. In counties like ours it is essential that a commissioner be in charge in each district, and the present law works well here.

### Preliminary Observations at Watsonville.

In order that our readers may get an intelligent idea of the practical merit of summer spraying as shown by actual results, says the Watsonville Pajaronian, we are pleased to publish some facts and figures kindly furnished by Prof. W. T. Clarke. The first illustration is one which furnishes an opportunity for comparison between the effects of distillate and arsenical sprays on a codlin moth. In a certain orchard a few Smith's Cider apple trees in parallel rows were set apart to serve as an illustration of the merit of each spray. Half of them were sprayed with distillate on May 5th and June 10th, and the other half were sprayed with an arsenical spray on the same dates. A careful count of the results obtained was made on June 27th. It was found that the loss caused by worms in the case of the distillate was 20%, while the loss on the trees sprayed with arsenicals was less than 1%. On another place a similar test was made with Red Pearmain apples. In this instance the spraying was done on May 22d and June 15th. Actual count on July 6th disclosed the fact that the loss on trees sprayed with distillate was 88%, while an equal number of trees in an adjacent row, sprayed with the arsenical spray, showed a loss of less than 1%. In neither of the two cases cited could Prof. Clarke prevail upon the owners to try the test further. They abandoned the use of distillate at once. The third illustration shows the results to date of judicious spraying. In this case three Newtown Pippin trees were left unsprayed in an orchard that had been carefully sprayed with the exception named. The examination made on July 15th showed the following startling facts: Unsprayed trees—No. 1, wormy apples, 1900; loss, 60%. No. 2, wormy apples, 761; loss, 35%. No. 3, wormy apples, 350; loss, 27%. Sprayed trees—No. 1, wormy apples, 37; loss, 4 10 of 1%. No. 2, wormy apples, 52; loss, 7-10 of 1%. No. 3, wormy apples, 31; loss, 3-10 of 1%. These latter trees are heavy bearing old trees. The facts above given simply show what has been accomplished by summer spraying to this date. If the same kind of result can be accomplished up to the picking season there will be a very small percentage of wormy apples in the properly sprayed Pajaro valley orchards. Prof. Clarke says that he believes it to be simply a choice with an orchardist whether he does or does not want wormy fruit.

## FORESTRY.

### Saltpeter and Coal Oil for Stumps.

TO THE EDITOR:—I noticed a few weeks ago your declaration of your unbelief in the saltpeter and coal oil method of burning out stumps on the basis of your own efforts in that direction, and you suggested that others try the experiment. It seems to me this is a proper undertaking for an experiment station, where they could afford to make a sufficient test to demonstrate the matter. Is it not so?—READER, San Francisco.

You are right in the suggestion and we are glad you made it, for it appears on examination that the subject was quite conclusively treated by the Massachusetts Experiment Station five years ago, and the following is the record:

A correspondent in one of our agricultural papers during the summer of 1895 reported that he had found it possible to destroy stumps in the following manner:

A hole 1 or 2 inches in diameter according to the size of the tree, and 18 inches deep, is to be bored in the stump. Into this put from one and one half to two ounces of saltpeter, fill with water and plug tightly. Six months later, put into the same hole about one gill of kerosene oil and set fire to it. The stump will smoulder away without blazing, even down to every part of the roots, leaving nothing but ashes.

On November 4, 1895, fifty stumps of trees cut in 1894, including maple, hickory, hemlock, white pine, yellow birch and elm, were bored according to directions. On December 11th saltpeter and water were put into the holes, according to directions, and the holes plugged. During July, 1896, the plugs were removed, the holes were filled with kerosene and an attempt made to burn the stumps. It was found that not even the oil would burn. Portions of the stumps were left until June, 1897, when another attempt was made to burn them, using a low test oil, called paraffine gas oil. The stumps are still in the field. The method has been given a thorough trial, but must be regarded as a complete failure.

## THE DAIRY.

### The World's Fair Cow Demonstration.

The cow demonstration proposed as one feature of the World's Fair cattle exhibits at St. Louis next year has been definitely arranged, and on a much broader scale than anything of the sort heretofore attempted. It has been designated a "cow demonstration," because, while not in any way neglecting the dairy test idea developed at former world's fairs, is intended to illustrate in a comprehensive way the practical adaptabilities of the pure-bred cow. The strictly dairy breeds are given opportunities to make a large showing, while features not in the least conflicting with their privileges enable the dual purpose breeds to demonstrate their value for both dairying and beef production. This means a demonstration rather than a competitive test, and will enable each breed participating to show its own peculiar advantages.

The Jersey, Shorthorn, Brown Swiss and French Canadian associations have already entered. Entries will be permitted from individuals on behalf of other breeds if received before December 1. Prizes will be awarded to herds and to individual cows, and entries of from five to twenty-five cows may be made by representatives of any one breed. The same cows may compete for herd and individual prizes.

The tests will continue 100 days, beginning Monday, May 16, 1904, and will be conducted in four classes, designated as Tests A, B, C and D. Test A is for the demonstration of the economic production of butter fat and butter; B, of milk for all purposes relating to dairying; C, of all the products of the cow, and D, for demonstrating the greatest net profit in producing market milk. In Class C the calf will be judged for its beef merits. A cow may be entered in more than one class. Copies of the rules may be had by applying to F. D. Coburn, Chief of Department of Live Stock, World's Fair, St. Louis, Mo.

The butter made there next year during the proposed cow demonstration will be judged by giving a possible credit of 15 points in a total score of 100 to "aroma" and 30 to "flavor," instead of ignoring the element of smell or aroma and giving a possible 45 points to flavor alone. Chief Taylor of the Department of Agriculture, under whose supervision the butter will be made and judged, is heartily in favor of recognizing aroma, and the representatives of the different breeders' associations furnishing cows for the test are unanimously for it.

No charges will be made for entries, stalls or pens in any division of the Exposition live stock shows. This applies as thoroughly to poultry, pigeons and dogs as to horses, cattle, sheep and swine. It has been approved as a general rule of the live stock department.

## THE BOTANIST.

### Yerba Santa.

TO THE EDITOR:—I enclose a few leaves from a plant that sprung up from ground that was taken out of a hole 7 or 8 feet below the surface. What is it and what is it good for?—READER, Woodland.

TO THE EDITOR:—The plant is Yerba Santa, or Mountain Balm (*Eriodictyon californicum*). It is common throughout the State, chiefly in the mountains, at middle and lower altitudes.

The leaves are balsamic-resiniferous, and are variously used in domestic medicine. A tea made by steeping the leaves, and also an infusion in spirit, is used as a tonic and for colds or sore throat. The dried leaves are made into cigarettes and smoked for colds, and both fresh and dried leaves are chewed for sore throat by the Spanish-Californians and Indians. The Coahuilla Indians call the plant tan-we-vel and use the leaves for a poultice or liniment. The pulverized leaves are bound upon the sores of both men and beasts, and the sore parts, as well as the limbs when fatigued, are bathed with a strong decoction.

According to Dr. Coville, the Mendocino county Indians value it more highly than any other of the native plants for medicinal purposes. Besides the uses mentioned above they find it valuable as a blood purifier, a cure for rheumatism and consumption.

It is conceded to be one of the best medicines recently introduced into regular official use. It has been recently admitted into the United States pharmacopoeia as being of special value in chronic subacute inflammation of the bronchial tubes, and as a means of disguising the taste of quinine.

H. M. HALL.

University of California, Berkeley.

RAISINS with grains of strychnine inserted in their pulp are good baits for gophers when placed in their runways, and green almonds with strychnine inserted are being used sometimes to poison squirrels. Both these attractive baits, however, are dangerous—especially to children. In Napa county the other day, however, a grown woman, visiting a friend, picked up a nice looking almond. She cleaned it off and ate it, but was soon violently ill, and for a time was close to death. The almond had been treated to strychnine to poison ground squirrels.



## Agricultural Review.

### BUTTE.

**PROLIFIC TOMATOES.**—Chico Enterprise: E. B. Johns exhibits a bunch of tomatoes that serve as an illustration of what can be grown in this section with moderate irrigation. The vine is strong and healthy, and the fruit is formed in a close set cluster of twelve fine plump tomatoes, not yet ripe or matured in growth, but weighing five pounds. This is the second setting for the season and a great number of blossoms indicate that a third setting will follow close upon the second. Mr. Johns estimates that his vines are easily producing a dollar's worth of fruit each for the summer.

**VETERINARIAN FOR BUTTE.**—State Veterinarian C. H. Blemer appeared before the Board of Supervisors of Butte county and gave formal notification of the fact that glanders exists among certain horses and mules in parts of the county and stated that the board had the right to appoint some person to look into the matter and to take a leading part in stamping this, as well as other contagious and infectious diseases out within the county. The board appointed Dr. L. C. Kennon as county inspector at a salary of \$7 per day for every day that he is actually employed in examining and testing animals within the county.

### COLUSA.

**A BOY MAKES A SUCCESS OF FARMING.**—Sun: About twelve years ago a South Carolina boy landed in Colusa county with about \$500. Last week the same party, Mr. John Mendenhall, purchased 575 acres of the Curtis ranch below Williams. Mr. Mendenhall already owned 400 acres adjoining which he has well improved. He also has about sixty head of young mules, about 300 hogs and quite a bunch of cattle, besides a harvester, plows, etc., all of which will aggregate over \$35,000 in value.

### FRESNO.

**PRICES OF PEACHES AND RAISINS.**—Enterprise: Buyers are offering 5c for peaches this week and contracting for raisins at 3½c. The peach harvest has commenced in earnest, and a large number of women, girls and men are engaged in the work. There is a plentiful supply of labor in this vicinity and orchardists anticipate but little trouble in handling their product. If the cool weather keeps on there will be a long harvest, as the fruit ripens and dries slower under such conditions.

### LOS ANGELES.

**GOOD APRICOT PACK.**—Pasadena Star: The apricot canning season just closed is said by Manager G. E. Greer of the Pasadena Canning Co. to have been very successful, an excellent quality of fruit having been put up. Some 150 tons of the green fruit was purchased at prices ranging from \$10 to \$25 a ton, the canned goods being shipped to points east of the Rocky mountains, and the pits sold to Los Angeles parties, who use the kernels for the making of prussic acid and the cracked shells for fuel.

**SHIP CUCUMBERS BY THE CARLOAD.**—Covina Argus: The water development of the past two years at Irwindale has given a great impetus to growing vegetables. Hundreds of tons of potatoes, green peas and cucumbers are being shipped annually. One thousand dollars a week is a conservative estimate of the returns now being received by the ranchers of this prosperous section for vegetables. During the past three weeks from one to two cars a day have been shipped from the Irwindale depot. Monday's shipments showed 219 sacks of cucumbers alone for the Los Angeles market, netting the growers \$20 per ton.

### KINGS.

**A GOOD RECORD.**—Hanford Sentinel: T. O. and Lester Robinson have returned from the Lake region, where they had been working with their combined harvester on some grain belonging to Robert Doherty. They commenced the work on Monday, July 13th, and finished the work on a piece of about 360 acres of wheat in twelve and a half days. During the time they harvested 6,900 sacks of fine wheat.

**CONDITION OF CATTLE.**—Hanford Journal: Frank Griffith, live stock inspector of Kings county, reports: "I found horses, cattle and sheep in excellent condition, with no contagion among the herds. I have had but one case of anthrax in the county this month. No cases of Texas fever have been reported for twelve months or more, and so far as I have examined them I have found the sheep fairly clear from scab and lung worm. As a whole, all stock are in good condition, except hogs. Hog cholera is very prevalent, and the utmost care and caution must be exercised by owners and those in charge or it will destroy all the hogs in the

county. I am maintaining strict quarantine measures against any stock moving from the coast counties to this county to prevent infection from the Texas fever tick, and I again insist that all who know of any contagious or infectious disease among stock of any kind shall report it to my office. I am very anxious also that any one knowing of the movement of cattle from the coast this way shall report it to me."

### MADERA.

**PEAR BLIGHT.**—Mercury: Horticultural Commissioner Hughes states that the pear blight, which has been ruining many orchards, has about run its course and is dying out. In the orchards about Madera the disease seems to have expended itself, and, although the trees look bad, they show a slight improvement over last year. Mr. Hughes advises orchardists not to dig up the trees, as the indications are that the blight is passing away.

### MERCED.

**CORN AND HOGS IN DEMAND.**—Star: There have been several sales of corn by parties on Merced river reported within the past few days. The corn is of last year's crop and the price is said to have been \$25 per ton, the quantity sold being more than 500 tons. John Flannagan sold eighty head of hogs last Saturday for the San Francisco market, realizing \$800. The hogs were raised in the Sandy Mush country and were fed principally on alfalfa.

### ORANGE.

**BIG BEAN CROP PREDICTED.**—Santa Ana Blade: Geo. W. Angle, considered an authority on matters connected with the crops of the big San Joaquin ranch, makes the affirmation that this year's yield of beans will be a record breaker for the county. Between 5000 to 6000 acres, according to Mr. Angle, are planted this year against something over 4000 last year, and the yield per acre this season will be from twelve to fifteen sacks per acre, making the whole crop reach nearly the 75,000-sack mark. The crop has now matured to such a point that only inclement summer weather can damage it to any extent, so that the prediction of a heavy yield is made with some degree of certainty. The acreage is about three-fourths Lima beans and the remainder Black-eyes. The latter command a price of 2½c per pound and the Limas 3½c. A. Getty & Co. of Tustin, acting for the J. K. Armsby Co., have contracted for the major portion of the crop at above figures.

### RIVERSIDE.

**APRICOTS SELLING WELL.**—Hemet News: It is announced that the entire apricot output of the Hemet Deciduous Fruit Association has been sold. It is the largest single sale since the valley was settled. Numerous buyers are around offering 7c a pound and up. It is also reported that Messrs. Bledsoe, Ferrine, Armhurst and others have sold. The Hemet Deciduous Fruit Association has handled nearly 400 tons of apricots; the Chapman, Mears, Abred and Stout driers (besides two smaller ones) have handled between 200 and 300 tons on the Hemet tract. Growers on the Hemet lands have also sold to the San Jacinto cannery something less than 100 tons.

### SACRAMENTO.

**HOP GROWERS WAITING.**—Union: The hop growers of Sacramento valley, who have been thinking of forming a pool like the pools in Oregon and Washington, have decided to wait until after the crop is harvested, which will put off the proposed convention about a month or six weeks.

### SAN BENITO.

**A CORNER IN HAY.**—Hollister Free Lance: For the past few weeks hay has attracted more attention than any other commodity in this section and prices have been advanced until the article is now quoted here at \$12 a ton. The cause of this raise from \$8 a ton to the present price can be attributed to the heavy competition for the product from outside parties. It is estimated that 90% of the hay crop of the State is under the control of ten men.

**SALE OF A BIG CATTLE RANCH.**—The Grogan grant, the famous cattle ranch in San Benito county, comprising 9000 acres, has been sold to Captain Sudden of San Francisco for \$137,000. It is one of the finest cattle ranches in the world. It will be used by the new owner for the breeding of fancy stock.

### SAN BERNARDINO.

**HONEY SAMPLES GOING EAST.**—Redlands Facts: Honey is in very light demand just now, especially the extracted goods. Samples of very fine comb honey are being sent to prospective buyers in the East and a price of 12c is being quoted on that article.

**APPLE YIELD.**—Yucaipa Correspond-

ence Times-Index: The apple crop is one of the best yet raised in the mountains, but not quite up to quantity hoped for. The vigorous spraying produces clean apples, but where the orchards were neglected the trail of the codlin moth is over them all.

**BET HARVEST COMMENCED.**—Chino Valley Champion, Aug. 7: Beets began to arrive at the sugar factory here Wednesday and are now coming in regularly by trainloads from outside districts. Delivery from the Chino fields commenced yesterday, but will be light for several days. The bulk of the supply is now coming from all the outside districts tributary to this factory, most largely from the peat districts of Orange county. The samples so far tested are showing good sugar content—from 15% to 18%.

### SAN DIEGO.

**SALE OF A FINE RANCH.**—Union: Claremont ranch at Ramona, one of the finest of its kind in southern California, has been sold by the owners, J. Reynolds and C. P. Thompson, for \$35,000. The buyers were A. T. Muir, of San Diego, and Dr. F. M. Madison, of Peoria, Ill. The new owners already have a cannery in operation, putting up 1300 cans of apricots per day, and giving employment to twenty-seven persons. A larger force will be put on in a few days to can peaches. The ranch consists of 400 acres in a high state of cultivation, and further improved with a mansion and other buildings. Fifteen acres are planted to peaches, fifteen to apricots and fifteen to walnuts that are now twelve years old. There are also fourteen acres producing olives, and others set out to prunes and grapes. Dairy cattle and hogs are raised and the ranch equipment includes a cream separating plant.

### SAN JOAQUIN.

**STATIONARY HARVESTERS SCARCE.**—Stockton Independent: Some of the farmers in this vicinity are beginning to worry over the lack of stationary harvesters in this part of the State. As a rule, there are always several of these machines making the rounds of the county each season to accommodate the farmers who prefer to head their wheat and barley; but it seems this year the owners did not put them in shape or rig them up, as it is termed. The scarcity of labor may have had something to do with this. The large combined harvesters required most of the men who were willing to work in the grain fields, and, as the owners can afford to pay better prices than the proprietors of the other machines, they naturally had the call on labor. James T. Salmond of French Camp, who has several hundred acres of grain headed and stacked, states that there was a large acreage of grain ready for the threshers, but the growers are unable to secure them at this time. He was of the opinion that some of the farmers might incur a loss this season by reason of rain in case there happened to be an early downpour. This accounts to a certain extent for the scarcity of the receipts of grain by team up to date, as on the uplands a lot of wheat and barley was so short that the owners decided that it would be advisable to use a header instead of a combined harvester.

**RAISING COTTON.**—Stockton Mail: Oba McCurry, a former resident of the State of Georgia, but now a Stocktonian, has some cotton growing on his place which he declares is as thrifty and promising as any in the South.

### SANTA CRUZ.

**SUMMER SPRAYING.**—Watsonville Pajaronian: The fifth summer spraying is under way and progressive orchardists will spray their orchards through August, which has always proved one of the worst months for fruit on account of the presence of worms. Next month will be the supreme test of the efficacy of summer spraying, and we venture the assertion that the specialists will conquer the codlin moth.

**GIVE THE BIRDS A CHANCE.**—J. S. Hunter, the ornithologist, has examined the stomachs of a large number of birds since he came to Pajaro valley in order to determine their value as fruit pest destroyers, and these examinations have shown that some of the most despised birds are the friends of orchardists.

**THE APPLE CROP.**—From present prospects the orchardists of Pajaro valley are going to market the finest quality of Newtowns and Bellefleurs in the valley's history.

### SOLANO.

**RED OATS YIELD ABUNDANTLY.**—Dixon Trihune: Henry Hamel, one of the best known farmers of northern Solano, has been threshing a crop of red oats, which was seeded as an experiment, and has proven quite profitable. The oats were headed and put in stacks after the method of harvesting employed in this section about twenty years ago. Stand-

ing oats in a ripened condition thresh out easily and the Hamel crop was damaged some in that respect, but the yield is quite heavy, nevertheless, averaging forty sacks of ninety pounds each to the acre.

**MILLING WHEAT FROM WASHINGTON.**—Vallejo Times: Wheat of this year's crop is beginning to arrive at Starr flour mill, South Vallejo. Ten carloads of grain came in Monday and a ship is due to arrive with a cargo of 2500 tons of wheat from the State of Washington. Ten thousand tons of California wheat have been purchased for the South Vallejo mills, but its delivery here will be slow, owing to the scarcity of cars.

### STANISLAUS.

**A BIG GRAIN CROP.**—Oakdale Leader: Edward M. Drals of the northern portion of the county and one of Stanislaus' extensive grain growers, reports that his grain crop, both in this and San Joaquin county, made a good yield this season—averaging eleven sacks per acre.

### SUTTER.

**JAPS "LIKEY" MORE MONEY.**—Independent: The Japs working in the orchards of B. F. and L. A. Walton, R. C. Kells, Mrs. M. S. Smith and Walter Blewing are becoming in a measure schooled in the ways of Americans and on last Tuesday went on a strike. They asked for a raise of 15 cents per day. They were being paid \$1.25 and demanded \$1.40. The fruit was ripening rapidly and the little brown men had their employers in a corner which they were not slow in realizing, and took the opportunity of making a raise. Their demands were promptly met by the growers and everything was soon working smoothly in these orchards.

**PRICES FOR FIGS, GRAPES AND PEACHES.**—Yuba City Farmer: Buyers are shy about making prices on dried peaches and the growers are not anxious to sell, as the crop will not be as large as was first anticipated. It is expected that the market will open somewhat higher than it did last year and the quotations will be from 5 cents per pound up. Most of the figs in this vicinity have been contracted, it is reported, by the Rosenberg Bros. & Co. at the same price as last year—2½ cents per pound. The crop promises well. A portion of the Muscatel grape crop has been bought at about 3½ cents in the sweat boxes, or from \$12 per ton or higher, green. No contracts have been reported on Thompson Seedless as yet.

### TULARE.

**PROFITABLE DAIRYING.**—Dinuba Trihune: F. L. Allen, the Monson dairyman, gives some figures that go to show how profitable the dairy business may be made if properly managed. He is milking eighteen head, eight of which are heifers, and two cows giving milk only once a day. They gave him during June 1753 pounds of cream, which tested 34 and for which he received \$134. During July he received a little over 200 pounds more cream than the preceding month. Mr. Allen has been in the dairy business for ten years, during which time he has been constantly weeding out and has now a fine herd of cows, but notwithstanding this he believes that a great deal depends upon the manner in which they are handled. A poor herd intelligently cared for can be made to give fair returns, while poor management, even with thoroughbred stock, means inevitable failure. He feeds his cows alfalfa hay morning and night, and during the day they are turned out to pasture in a field that is knee deep in green alfalfa. He feeds his cattle all they will eat, believing that only by the best of care can the best results be attained.

**LIGHT PEACH YIELD, BUT FINE QUALITY.**—Visalia Times: The peach crop of Tulare county this year will be lighter than for several years past. Estimates of the yield made by orchardists at the beginning of the season have in many instances been largely in excess of the crop that will be actually harvested. One party, it is stated, who believed that forty tons would be harvested from his tract, will have not more than fifteen. This, however, is no doubt an extreme case, as others more conservative have found their calculations more nearly correct, though the crop will fall short from a half to a third of the estimated yield. While the crop will be light the fruit will be much above the average as regards size and quality. Growers state that some of the finest freestones ever grown in this section for flavor and general appearance are being harvested.

**WOOL GROWERS MEET.**—Times: The Tulare county wool growers held a meeting at Porterville to appoint a scab inspector, and Charles A. Hartwig of Tulare was given the position. The county being large, it was thought advisable to appoint C. T. Brown of Porterville and Mr. Kennedy of Dinuba as assistant scab inspectors.



## THE HOME CIRCLE.

## Sunday.

On Sunday no alarm shock

"To Work!" beats on the tired brain;  
What bliss to wake, to scorn the clock,  
To smile and go to sleep again.  
And joy goes dimpling through the town,  
On heartstrings her sweet tune she strums,  
And careworn brows forget to frown  
When Sunday comes.

On Sunday there's no breathless haste  
To mill or mart on tireless legs;  
And oh, how beautiful the taste  
Of leisure in the ham and eggs!  
To munch your breakfast at your ease,  
To jeer at time and snap your thumbs—  
You only get such joy as these  
When Sunday comes.

When Sunday comes the little girls,  
Before the glass, with huge delight  
Take out of jail the little curls  
That they have had pins in all night.  
The little boys don "Sunday best,"  
Which Freedom's ardent spirit numbs,  
And by clean collars they're oppressed  
When Sunday comes.

When Sunday comes how grand to sit  
(When you have dined among your kin)  
To read a bit, and doze a bit,  
Until they bring the supper in,  
With music of the jingling spoon  
And saucer, while the kettle hums  
An extra pleasing Sabbath tune  
When Sunday comes.

When Sunday comes with what a glow  
A man may puff his pipe and say  
(As Horace said some time ago),  
"Lord of myself I live to day!"  
So here's to Sunday, three times three,  
With glad heart's inward files and drums,  
And—keep a corner, please, for me,  
When Sunday comes.

—Kansas City Independent.

## What He Knew About Girls.

"There's a girl over there that I keep meeting constantly, and yet she never deigns to give me more than a nod or perhaps a commonplace or two."

Ned Black's manner as he turned toward his companion was distinctly aggrieved. Then, as his gaze fell upon a stranger instead of his familiar friend, he exclaimed: "Oh, I say, I thought you were Graham, you know!"

It was at an afternoon reception, and the two men lounged at either side of a doorway.

The man addressed, without shifting his gaze from the jostling crowd before them, answered easily: "Graham's gone five minutes. What girl do you mean? The pretty one in white, talking to old Miss Fitznob? Why, she's not particularly difficult—at least she hasn't that reputation, like Miss Maynwarding. Perhaps you don't take the right tates. Popular girls like that have to be managed. You ought to make her understand that 'there are others' I suppose you seek her out and say all the unusual things that she takes as a matter of course. So do all the other fellows, and so she doesn't distinguish you from the crowd. Now, my advice—but perhaps I'm boring you, and, after all, I suppose it isn't worth while."

"Not at all," broke in Ned. "I am very much interested; I really admire that girl. Go ahead and tell me your scheme."

"Well, then, you ought to do exactly the opposite thing, apparently come across her by chance; then pause a few minutes as a matter of duty. Don't seem particularly interested at first, but gradually lead the conversation round to some other girl, and then wax eloquent. See, now is your chance, she's all alone for a moment. Go ahead, old man, and try my plan; it will at least succeed in fixing her attention."

"Oh, I say," muttered Ned, a little dazed at this rapid arrangement. "I wish I could, you know. I see the idea is good, but I'm afraid I can't follow it out, though—"

"Nonsense, all you want is confidence. Faint heart, remember. Go ahead. Good luck to you," and with a scarcely perceptible shove the older man started his companion on his way,

shrugged his shoulders and murmured: "Well, I've got him off my hands. Thinks he's hurt, but he's only a little piqued. Wonder where Miss Maynwarding is. When a girl is really difficult there's some zest to the chase."

Meantime Ned jostled through the crowd and passed by the girl in white with a well-simulated start of surprise.

"Oh, 'good afternoon, Miss Edgerton," he exclaimed, in a slightly forced manner. "Rather a crush here, isn't there?"

"How do you do, Mr. er—Black. Yes, indeed, and it's insufferably warm," she responded, indifferently.

"Can't I get you an ice, or something," this rather perfunctorily.

"Thank you, no, I've tried that twice already. If there were only some cool place where one might go. Auntie isn't coming for me for another half hour."

"Oh, I have it, said Ned, affably. "I know a place. Miss Blake and I discovered it the night Mrs. Noyes gave that little dance, last fall. You were here, of course," he asked, as if he couldn't quite trust his memory.

"Yes, that is, I think so. Small dances are so much alike it is hard to distinguish them near the end of the season."

"Here we are." Then as the girl drew a deep breath of relief, he hurried on, "I really shouldn't claim the credit, you know; it's all due to Miss Blake. Mighty nice girl, Miss Blake."

"Yes, isn't she a dear! All Southerners have such pretty manners."

"Haven't they?" he assented, heartily. "I knew another charming girl of that same name. Any relation? I never heard, but it's possible. A great many of those nice Southern families are connected. This other Miss Blake was the sister of my college chum, and after graduation I spent a couple of months with him in Atlanta. I saw a good deal of her, and, of course, fell in love with her. Fact is, I proposed, but she wouldn't have me."

Miss Edgerton almost gasped. Was it possible that she, the acknowledged belle of two seasons, was hearing the charms of some other beauty discussed? All the coquetry that she had found it needless to use was aroused, and she looked at her companion with an air of awakened interest.

"Dear me! She didn't show very good judgement, did she?"

The question was accompanied by a little upward lift of her eyelids, and Black hastened to reply with an air of strict impartiality:

"Oh, you're a little hard on her, I think. You see, I wasn't such a finished product then." There was the slightest emphasis on the then, and his challenging smile, directed straight at her eyes, aroused an answering gleam in their blue depths.

"It would be only fair to give her another chance, I should think," she questioned, solicitously. "It's rather difficult to judge of things in the er—raw!"

The blue eyes, without a shade of ulterior meaning, gazed innocently into his for a minute, and then Ned burst into a laugh at his own expense.

Recovering himself, he replied, impressively: "She forfeited that chance forever by marrying within a year." He paused, reflectively, then added as if in concession to her views. "Perhaps her taste was not quite all I suppose it to be."

"Why, there's Auntie! Have I been here a half an hour? You've been very entertaining Mr. Black. I haven't been bored a minute."

"Are you often bored?"

"Oh, sometimes."

"Perhaps I might succeed in amusing you again," this tentatively.

"Possibly!" Then more encouragingly, as they neared her aunt. "You might try. I shall be at home next Thursday. Oh, here you are auntie, dear. Thank you Mr. Black. Good-by."

As Ned hurried down the stairs on his way out, he overtook his chance acquaintance. "You know a few things about girls, don't you?" he smiled.

"Well," the other drawled, "I know a few things about that girl. Then, in

an explanatory tone, as Black's manner indefinitely stiffened, "you see, she is my only sister."—Genevieve A. Ryan.

## The Old Brown Gourd.

In a valley sweet with sunlight,  
Fertile with the dew and rain,  
Without miner's daily labor,  
Without artist's nightly pain,  
There grows the cup I drink from,  
Summer's sweetness in it stored,  
And my lips pronounce a blessing,  
As they touch the old brown gourd.

Why, the miracle at Cana,  
In the land of Galilee,  
Tho' it puzzles all the scholars,  
Is no longer strange to me;  
For the poorest and the humblest  
Could a priceless wine afford,  
If they'd only dip the water  
With a sunlight-seasoned gourd.

So a health to my old comrade,  
And a song of praise to sing  
When he rests inviting kisses  
In his place beside the spring.  
Give the king his golden goblets,  
Give the prince his crystal hoard;  
But for me the sparkling water  
From a brown and brimming gourd!

—Paul Laurence Dunbar.

## Character in Cats.

In speaking of the putting of cats on canvas, a painter of them recently said: "They are, without doubt, one of the most difficult creatures to paint, and lamentably few artists make a success of their portraiture. They are almost impossible to keep quite, and the particular fluffy 'cattness' of their coats is far from easy to depict in pigments. The famous cat painters are few, and when choice or chance discovers one, he, or more often she, finds the gift a mine of wealth."

"In David Brooke's well-known picture of the darky preaching at dinner, in the Corcoran Gallery in Washington, the cat in the foreground could be induced to sit still only by having her feet glued to the floor. But satisfactory results as to expression, in which a cat's face can be particularly eloquent, are not to be secured in this way. Those who have had reason to know say that even the fur of felines is indicative of several things. In health and contentment it stands out fluffily from the bodies, while in fear and displeasure it lies flat and lankily to the skin."

"Not long since a picture was placed on exhibition of a cat lapping milk, with its tail held high. Though the technique was good and the fur really 'furry,' the value of the whole was practically nil because no cat has ever been known to eat with its tail in the air. With waving tails they do indeed rush toward the food, but with the first lap or bite down goes the caudal appendage lower and lower until with a full stomach it sweeps the ground. In the case of young kittens it is often different, however. They scramble into a dish of milk with their pointed, rat-like tails at right angles to their roly-poly bodies and sometimes forget to take down the sign of animation and alertness. Any one who knows cats knows that the tail at every angle and with every movement is expressive of some definite emotion."

"Contrary to the general belief, I have found that cats can be trained as easily as dogs and form the same habit of following one about. My big black Tom has gone everywhere with me since his kitten days; long tramps in the woods, coaching tours, picnics—no journey proves too hard for him. Once when we were starting on a fishing trip I locked him up quite securely as I thought, supposing, of course, that he would not enjoy the uncertain motion of the boat or the inevitable wetness of the surroundings. But at the last moment he came bounding down the wharf and serenely established himself on the cushions in the stern, evidently prepared to take fisherman's luck with the rest of us. He showed no sign of fear as long as we were around. He enjoyed the minnows that fell to his share, and since then the collection of rods and tackle is a sign for him to trot off happily to where the boats are moored. He has now become quite an experienced sport,

watching the water keenly for the ripples that tell of a 'bite,' and cocking his shiny, black head excitedly on this side and that as the line grows taut and the rod curves in the struggle. His joy knows no bounds when the victim is landed at last, and he runs from one to another purring and rubbing his back against any projecting hand or foot, apparently in an ecstasy of congratulation. Some one frivolously suggested that my black beauty reposed or relieved the soul of a complete angler, and since then he has been like to to his numerous friends and acquaintances.

"All our cats endure the discomforts of enforced travels of the household in very philosophic fashion. We have three, and they are now scarcely considered as others than members of the family. They dine as politely as we do ourselves—the white Persian beauty with big blue eyes, the big maltese and coal-black Ike. Their little polished table and leather upholstered chairs stand in the bay window of the dining-room, and each meal time they take their places and wait patiently for the maid after she has served our table, eating with the utmost neatness and daintiness such delicacies as are put upon their plates. They will not touch their food, no matter how hungry they are, unless it is cut into small bits, and there was a time when the Angora would even then walk away from his plate in disdain unless I seated myself near him and appeared to take an interest in his meal."

"My husband had a devoted cat a few years ago, who used to meet him at a certain lamppost near the house every evening on his return. She would escort him home with many manifestations of joy and sit under his chair while he dined, waiting to receive her dinner from his hand. One winter a business trip took him away from the city for several weeks. Nights of fruitless watching at the lamppost, her trysting-place, we called it, were followed by listless days, when she would eat scarcely anything. She would sit under his empty chair at meal times and sniff dejectedly at the most appetizing morsels. At last she seemed to give up hope, or else her weakness prevented her from walking so far, and the lamppost knew her no more. Toward the end of the third week and a day before my husband returned she died of grief and starvation."

"We are all passionately fond of cats, and as a portrait painter to their majesties I necessarily see a great many phases of their character. They love me at first sight, it seems, and I am often able to pose a nervous cat as even its owner is unable to do. I like to make new acquaintances in catdom, and my models and sitters are always on the best of terms with me. Loving all their kind so dearly I really think I can get some of their 'real' selves, their personality, into their funny furry faces. At any rate, I know how I would like my cat children to be put upon canvas and I try to make glad the hearts of cat lovers by doing the same for their precious possessions."

This portrait painter to their feline majesties then told of an indolent pussy who got into the habit of sleeping in the baby's cradle, enjoying the motion. As the baby grew older it was a regular thing for her to rock the cat to sleep, and sometimes, when two naps a day were required, and the small girl grew tired, pussy would climb up and contentedly rock herself, balancing herself with his forepaws on the side rail, and purring ecstatically.

"I don't think cats ever forget an injury and seldom forgive one," continued the artist. "They have a great deal of dignity and keenly resent being laughed at. On the whole, I don't believe the respect which the old Romans, and more especially the Egyptians, had for the feline family was so very much misplaced after all."—New York Tribune.

Tommy—Talking of riddles, Uncle, do you know the difference between an apple and an elephant? Uncle (benignly)—No, my lad; I don't. Tommy—You'd be a smart chap to send out to buy apples, wouldn't you?



### What Is Good?

"What is the real good?"  
I asked in musing mood.  
Order, said the law court;  
Knowledge, said the school;  
Truth, said the wise man;  
Pleasure, said the fool;  
Love, said the maiden;  
Beauty, said the page;  
Freedom, said the dreamer;  
Home, said the sage;  
Fame, said the soldier;  
Equity, the seer.  
Spoke my heart full sadly,  
"The answer is not here."  
Then within my bosom  
Softly this I heard:  
"Each heart holds the secret,  
Kindness—is the word."  
—John Boyle O'Reilly.

### Nosebleed.

Bleeding from the nose may be caused by an injury, such as a violent blow, or sneezing too hard, or snuffing irritating substances up the nostrils, or it may occur as a symptom of constitutional disease. In the latter case it may be the result of any one of several causes. In advanced adult life, for instance, it sometimes means that the person is suffering from Bright's disease or from heart trouble, causing the vessels that feed the brain to become overdistended with blood.

Some people suffer from nosebleed when they climb mountains, or when they first go to live at a much greater altitude than that to which they have been accustomed. In these cases, and in all cases caused by overdistention and pressure, the attack of nosebleed is a direct effort on the part of nature to relieve the system, and is therefore a blessing in disguise.

In young people who are making blood very fast—faster than the system requires—there often occur violent attacks, which must be, of course, suitably treated, but need cause no great alarm, unless they prove very obstinate to simple remedies. This form of nosebleed will disappear as the patient approaches adult life, and the whole system finds its balance.

Certain diseases, such as scarlet fever, typhoid fever, blood poisoning and erysipelas, are often accompanied by attacks of nosebleed. These attacks are then only one of the many symptoms of a serious disorder, and as such would naturally be dealt with by the physician in attendance.

In the ordinary cases of bleeding from the nose in children or young adults, very simple household remedies are generally all that will be needed. It is only when these attacks become too frequent, or when enough blood is lost to make the sufferer white and weak, that more energetic measures will be needful. There is an old wives' theory that the dropping of a large, cold doorkey down the back will stop nosebleed. This theory has, as usual, its little germ of truth. If a doorkey is the biggest and coldest thing at hand, it would be well to use it in this way. As the virtue, however, does not lie in the key, but in its coldness, cold water compresses applied to the back of the neck and the forehead would do the work quicker and more scientifically. If this has no effect, the sufferer should lie down with the nostrils compressed and the arms raised above the head. Sometimes plugging the nostrils with absorbent cotton soaked in some astringent, such as alum or tannic acid, will be found necessary.—Youth's Companion.

### The Woman Who Swims.

Swimming will do more to develop perfect health in women than any other form of exercise. It develops the whole body symmetrically, loosens the joints, gives free action to the limbs. It increases the lung capacity, inducing deep breathing; straightens the frame, throwing the chest forward and the head back. The woman who swims gains all this, and in the gaining has much pleasure.

In the water she is suspended, without the least hindrance to the motion of her body, she can move her arms or legs in any direction and bend the

trunk freely. The different methods of swimming, all of which she will learn in time, bring into use all of the muscles of the legs and arms.

A swimmer soon learns deep breathing, as a deep breath will keep the body at the surface of the water without the extra effort required by the use of the legs and arms.

The positions of the swimmer at first seems strange to a woman; the disuse of certain muscles has degenerated them, and when she enters the water to swim she feels no inclination to use muscles which she has not used since early childhood—the muscles of her abdomen. What she does try to do is to make the same restricted motions that she is forced to make ordinarily, the knees together and the little jerky strokes of the arms and legs. She soon sees the folly of this, however, and in time acquires the long, sweeping, graceful stroke of legs and arms which comes to the proficient swimmer by practice.

Who has ever watched the actions of a professional swimmer and noted the long sweep of the limbs, the recovery of the arms for the new stroke, and the wide, powerful swings of the legs, without a desire to acquire a little skill and power, combined with a like grace of motion?—Macfadden's Magazine.

### Gymnastics and Health.

We have more than once called attention to the mistake—a very common one—made by those who think they can gain health by developing large muscles. Athletics and gymnastics are one thing; health gaining through exercise is another.

And it is certain that to push athletic development to a far point and then suddenly take up an ordinary life is dangerous. For the great muscles thus enlarged have to come back to a normal size. Any organ suddenly disused—and a large proportion of an athlete's muscles become disused organs when he goes back to ordinary life—wastes quickly, and discharges its poisonous waste products into the blood. The blood, therefore, acquires a marked febrile tendency for a considerable time. The athlete needs a lung development much beyond the requirement of ordinary life; and if, having this, he suddenly quits athletic life, the lungs are in very real danger of consumptive disease.

This is one of the reasons for the damaged health of retired athletes, prize-fighters and professional strong men. Though there are, of course, other reasons, especially the drinking habit, which they acquire or fall back upon at once that the strain of training is removed. And the blood is in an especially inflammatory state because of the fact that the amount of food thought necessary during the athletic period is not reduced when the mode of life is changed.

If a man in athletic training desires to resume ordinary life, he should reduce his exercises by degrees. And especially should be quickly reduce his food and lighten its quality.

What do moderate gymnastic exercises effect in the ordinary man, and what relation have they to health?

A few brief exercises, done daily in open air, or at a window, involving every muscle, are excellent. Lingering waste products are unloaded from the muscular fibers into the blood, and the fibers gradually acquire such an elasticity of tone that the lingering does not occur any more. Similar products are squeezed from the nerve-strands, and the blood flow quickened. Therefore the mind and feelings have a healthier and clearer physical basis, and are therefore themselves healthier.—New Century.

"At least," remarked the courageous little sparrow, as the hunter-for-revenue-only aimed at him, "at least, no matter how I have lived, it can be said that I died game." And the next day, true enough, he appeared on the menu as redbird.

Little Dolly—Why is the hour-glass made small in the middle? Little Elsie—To show the waist of time, dear.

### Why One Foot is Larger Than the Other.

"The question of which foot to fit first is an important one to us," said the shoe salesman, as he tugged to get a small pair of Oxfords on a large foot. "It may seem strange to you, but it is rarely that we do not experience some trouble in fitting one foot while the other is easily covered. A popular belief obtains that the left foot of every person is the hardest to fit, and consequently, many shoe clerks always try a shoe on that foot first. It is not true, however, according to my observation, that there is any inflexible rule as to which foot to try first. It is true, nevertheless, that in a majority of cases if you succeed in fitting the left foot you will have no trouble with the right. My practice is to try both feet before I pronounce a pair of shoes a perfect fit. Then I am sure of avoiding any mistake growing out of peculiarities of foot formation. No two persons have feet formed exactly alike, and the shoe salesman who thinks so and is governed accordingly will meet with many complaints.

"For some time I pondered over the problem of fitting shoes to feet, and especially as to why the left foot should be considered the standard by which to be governed. The only rational theory I have ever been able to evolve is a very simple one when you come to consider it. Nine out of ten persons you meet are right-handed, as we say. About one person in ten, or perhaps the per cent is even less than that, uses his left hand. If you will observe persons who use the right hand when they are standing and talking, they invariably rest their weight on the left foot. And vice versa, a left-handed person will rest his or her weight on the right foot. The result is that with right-handed persons the left foot is probably a fraction larger than the right foot, and the shoe clerk must inevitably find this to be a fact sooner or later."—New Orleans Times-Democrat.

### Domestic Hints.

**RASPBERRY VINEGAR.**—Put two quarts of fresh, ripe raspberries in a stone or china vessel, and pour on them a quart of vinegar. Let stand twenty-four hours, then strain through a sieve. Pour the liquid over two quarts of fresh raspberries and let stand again twenty-four hours. Then strain a second time. Allow one pound of loaf sugar to every pint of juice. Break up the sugar and let it melt in the liquor. Put the whole into a stone jar, cover closely and set it in a kettle of boiling water, which must be kept at a quick boil for one hour. Skim, and when cold, bottle the vinegar for use.

**PEA SOUP.**—For pea soup shell a quart of peas. Boil them until soft in one and a half pints of water, adding a few of the pods to give flavor. Rub them through a sieve. Add one quart of beef stock, one teaspoonful of sugar, and pepper and salt to taste. Let them come just to a boil, then add half a pint of good cream and serve. Some good cooks advise putting a bit of soda with old peas to make them tender and give a good color, but this is not advisable. If they have reached that extremity they are only fit for soup. A little sugar is often added with advantage, to replace natural sweetness.

**ROAST QUAILS.**—Draw and truss these the same as pheasant; cut some thin, square layers of fat bacon, just large enough to cover a quail, spread a vine leaf over each of these, cut it to their size, and then tie them on the breasts of the quails. Run an iron skewer through the quails, fasten this on to a spit and roast them before a brisk fire for about a quarter of an hour, then dish them up with water-cress around them, glaze the layers of bacon, pour some of the gravy under the quails, and serve.

He—I wonder why Miss Elderly never married? She—Oh, I suppose she was born in the wrong time of the moon. He—The wrong time of the moon? She—Yes; when there wasn't any man in it.

### Hints to Housekeepers.

Any green vegetable, like spinach, Brussels sprouts, cabbage or peas, retains its color much better if left uncovered during the cooking process.

As a garnish peas in mounds or a border add much to the attractive appearance as well as flavor of sweetbreads, chicken or veal fricassee, chops, fillet of beef or the more delicate kinds of fish.

A few tender leaves of wild sorrel mixed with lettuce give a delicious flavor to salad. Radish and beet tops, and young milkweed tops boiled in salted water, chilled and chopped like spinach, make good and unusual salads. Spinach centers, the little bleached leaves in the center of the bunch, are excellent. They, too, must be boiled before serving. A sprinkle of chives improves any of these salads.

An expert cook says that one very palatable way to serve noodles is with boiled fish, instead of potatoes. Drop the noodles into boiling salted water, but reserve a few for frying. After allowing them to boil for ten minutes, stirring occasionally with a fork, pour into a colander, and while they are draining fry those that have been reserved to a golden brown. Heap the boiled noodles in a vegetable dish, and drop the fried ones lightly over the surface. Serve the fish with a cream sauce.

For creamed peas in turnip cups peel a dozen new round white turnips, medium size, and cook in boiling salted water until tender. Meanwhile make a white sauce, using one tablespoonful each of flour and butter and half a pint of milk. Take a pint of peas, cooked tender, and add to the sauce, seasoning to taste with salt and pepper. When the turnips are tender, but not broken, drain, scoop a hollow in the center, cut a slice off the bottom so the cups will stand upright and fill with the peas.

Do not throw away mayonnaise sauce because careless handling has caused it to curdle. Take a fresh dish, preferably a soup plate, chill it on the ice, and "pick up" the mayonnaise by this simple process: Stir together a few drops of cold water and a little dry mustard. Dip the fork into the curdled sauce and stir it a very little at a time into the mustard and water. Proceed cautiously, stirring rapidly and well each time the fork is dipped into the curdled mixture. The result will be a perfect mayonnaise.

Afflictions of the feet are especially distressing in spring and early summer to those who are obliged to be much on them. The troubles are not due, as so many suppose, to tight or ill-fitting shoes, but to the excessive exercise of the feet in close shoes without free access of the air to the muscles in action. The barefooted boy is seldom footsore, but the lad whose feet are incased in close shoes in summer, when the perspiration is abundant, is likely to be a sufferer. One of the remedies for this trouble is to wear low shoes, so that the feet may be partially ventilated. Next in importance to proper ventilation is proper bathing. All persons ought to bathe and rub their feet vigorously once a day, and put on fresh stockings. Stockings may be aired one day for the next. It is not always necessary that they should be put through water every day. Simply drying and airing them may be enough. Thus two or three pairs of stockings may be worn in rotation for a week. Persons who suffer excessive perspiration of the feet should be especially particular. They should bathe their feet in cold water, rubbing alcohol between the toes, and powder the feet carefully with equal parts of orris root and starch. When a person suffers from cold feet, frequent bathing is often efficacious, but the feet ought to be rubbed vigorously after the bath.

Chief Millikin—That lady in red going down the street is evidently a grass widow. Inspector Casey—Why do you think so? Chief Millikin—Every time she goes near a horse it tries to bite her.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, August 12, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	81 @ 79 3/4	81 1/2 @ 80 1/4
Thursday.....	79 @ 80 1/4	80 @ 81 1/4
Friday.....	79 1/2 @ 80 1/4	80 1/2 @ 81 1/4
Saturday.....	79 3/4 @ 80 1/4	80 3/4 @ 81 1/4
Monday.....	80 1/2 @ 79 3/4	81 1/4 @ 80 1/4
Tuesday.....	80 1/2 @ 79 3/4	80 3/4 @ 80 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	52 1/2 @ 51 1/2	52 1/2 @ 51 1/2
Thursday.....	51 1/2 @ 52 1/4	51 1/2 @ 52 1/4
Friday.....	52 @ 52 1/4	51 1/2 @ 52 1/4
Saturday.....	52 1/2 @ 52 1/4	52 1/2 @ 52 1/4
Monday.....	52 1/2 @ 52 1/4	52 1/2 @ 52 1/4
Tuesday.....	51 1/2 @ 52 1/4	51 1/2 @ 52 1/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 48 1/4 @ 1 49	@
Friday.....	1 47 1/2 @ 1 48	1 47 1/2 @
Saturday.....	1 48 @ 1 48 1/2	@
Sunday.....	1 47 1/2 @ 1 48	@
Monday.....	1 48 1/2 @ 1 49	@
Tuesday.....	1 45 @ 1 45 1/2	@

### WHEAT.

The same firm tone previously noted continues to prevail in the spot wheat market, with offerings light, and holders asking in many instances higher figures than are quotable. Firmness is most pronounced on desirable milling qualities or for choice seed wheat. For clean and plump Blue Stem \$1.60 has been bid in a wholesale way, without securing the wheat, holders expecting to realize considerably higher prices. Choice Sonora and Australian White are also being held as a rule above extreme quotations. Shippers are not making much effort to purchase in this center, and are not bidding openly over \$1.50 for No. 1, which is out of proportion with prices ruling for milling wheat, being fully \$2 per ton under current values for choice milling, while ordinarily the difference in price between the two descriptions does not exceed \$1 per ton. Exporters are drawing some wheat from Oregon and Washington, having been able to purchase there lately to better advantage than in this State. The crop in the North is not turning out as good as last year, but the increased acreage is reported to be making up largely for the shortage in the average. The market for grain charters remains slow and devoid of firmness. A French bark was taken for wheat and barley at 15s 3d to Antwerp direct, which is a full figure on the present market. In the speculative market Dec. wheat declined nearly 5c., but a portion of the loss was recovered at the close.

California Milling.....	1 55 @ 1 60
Cal. No 1 shipping, alongside.....	1 47 1/2 @ 1 50
Oregon Club.....	1 45 @ 1 50
Washington Blue Stem.....	@
Washington Club.....	@
Off qualities wheat.....	@

### PRICES OF FUTURES.

December, 1903, delivery, \$1.49 @ 1.44 1/2.  
May, 1904, delivery, \$1.47 1/2 @.

Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.45 @ 1.45 1/2; May, 1904, \$ @.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	6s 3 1/2 d @ 6s 4 1/2 d	6s 8 d @ 6s 8 1/2 d
Freight rates.....	35 @ 36 1/4 s	15 1/2 @ 16 1/2 s
Local market.....	\$1 12 1/4 @ 1 15	\$1 47 1/2 @ 1 50

The above prices for wheat are for No. 1 shipping, and the freight rate is per ton of 2240 pounds in first-class iron ships to Cork, U. K., for orders.

### FLOUR.

The outward movement has been heavier the current week than for some time past, especially to the Orient, the last steamer for China carrying 23,781 barrels. Trade on local account is not particularly brisk. Stocks are of only moderate volume. Market is tolerably firm, the quotable range of values remaining as last noted.

Superfine, lower grades.....	\$2 50 @ 2 75
Superfine, good to choice.....	2 85 @ 3 10
Country grades, extras.....	4 00 @ 4 20
Choice and extra choice.....	4 20 @ 4 45
Fancy brands, jobbing.....	4 45 @ 4 70
Oregon, Bakers' extra.....	3 40 @ 4 00
Washington, Bakers' extra.....	3 40 @ 4 15

### BARLEY.

While the market inclined against buyers, the firmness was most pronounced on desirable shipping grades, these being more eagerly sought after than feed descriptions. There has been no excess of offerings here this season of high-grade barley, suitable for shipment, most of the

grain of this sort which has thus far come forward representing prior arrival purchases. Offerings of feed barley, however, have been on the increase, and values for the same have not been so well maintained as on the higher grades. The Portland Oregonian publishes the following regarding a recent sale of 200,000 sacks of No 1 brewing barley from a pool of Columbia county farmers, to Henry Weinhard of Portland: "Not only is this the largest transaction in barley ever recorded in Oregon or Washington, but the price paid is well up toward the record. The lot secured was at \$1 per cental in Dayton, which is equivalent to about \$24 per ton in Portland. Exporters who attempt to buy and sell on Liverpool market prices have been able to secure but little barley this year. They state that while \$24 per ton may be all right for barley for brewing purposes, where the buyer is the brewer, there would be nothing in it for an exporter, and that an attempt to ship this lot just purchased would result in a loss of nearly \$40,000. As the brewers cannot take all of the supply available the remainder of the surplus must be sold for export, and it will require some time for the holders to adjust their ideas of prices to the conditions. Meanwhile a sale at the price paid by Mr. Weinhard will tighten up the deadlock between the farmers and the exporters."

Feed, No. 1 to choice new.....	\$1 05 @ 1 07 1/2
Feed, fair to good.....	1 02 1/2 @ 1 05
Brewing, No. 1 to choice new.....	1 17 1/2 @ 1 20
Chevalier, No. 1 to choice.....	1 35 @ 1 45
Chevalier, common to fair.....	1 10 @ 1 30

### OATS.

Trade in this cereal has been of fair volume the past week, with no change of consequence in the general tone or in quotable values. There is considerable California oats coming forward, and arrivals from Oregon and Washington are on the increase. While there are no heavy offerings of choice to select qualities, there is more of this sort, and the general average is better than early in the season.

White Oats, fancy feed.....	1 30 @ 1 35
White, good to choice.....	1 25 @ 1 30
White, poor to fair.....	1 17 1/2 @ 1 22 1/2
Gray, common to choice.....	@
Milling.....	1 25 @ 1 30
Surprise, good to choice.....	@
Black Russian feed.....	1 12 1/2 @ 1 22 1/2
Black for seed.....	1 27 1/2 @ 1 35
Red, fair to choice.....	1 15 @ 1 30

### CORN.

Spot supplies are showing a little increase, but are still of very limited proportions, and include such an extremely light quantity of Small Yellow that this variety is hardly quotable in a regular way. Values for Large White and Large Yellow continue at a high range.

Large White, good to choice.....	1 55 @ 1 57 1/2
Large Yellow.....	1 57 1/2 @ 1 60
Small Yellow.....	1 70 @ 1 80
Eastern, in bulk.....	@

### RYE.

Market is quite firm, being wholly devoid of selling pressure. Only on local account, however, are sales possible at current quotations.

Good to choice, new.....	1 20 @ 1 25
--------------------------	-------------

### BUCKWHEAT.

Stocks here are small and there are no evidences of any noteworthy supplies being held in the interior. Quotable values remain as last noted.

Good to choice.....	2 00 @ 2 50
---------------------	-------------

### BEANS.

Market is not displaying much activity, but values for most kinds are being tolerably well maintained at about last quoted range. New crop beans, under normal conditions, should be arriving in quotable quantity from Sacramento river section in about thirty days, but that many will be received this year before October is not likely, the season being late. There are no very large supplies of old now in this center. Some dealers have been endeavoring to contract for new beans without putting up any coin, to which growers seriously and rightly object, knowing from previous experience that if the market happens to be weak when the deliveries are made the beans will be rejected on some excuse, and if the market is above the contract price the buyer will insist on full delivery.

Pea, fair to good, 100 lbs.....	3 25 @ 3 50
Small White, good to choice.....	3 15 @ 3 25
Large White.....	3 85 @ 3 00
Pink.....	2 90 @ 3 05
Bayos, good to choice.....	3 47 @ 3 50
Reds.....	2 90 @ 3 00
Red Kidney.....	@
Limas, good to choice.....	3 40 @ 3 50
Black-eye Beans.....	2 75 @ 3 10
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

There are not many of any sort offering and market presents a tolerably firm tone. In the absence of any noteworthy trading, however, there is little at the moment upon which to base quotations.

Green Peas, California.....	1 60 @ 1 75
Niles Peas.....	2 25 @

### HOPS.

No evidence of any business of consequence doing in this center, but increased movement is reported north and east, and at slightly firmer figures than had been ruling in above sections. Stocks here are of rather light volume. A New York authority gives under recent date the following resume of the situation: "Considerable activity has been reported on the Pacific coast. Exporters have bought a number of lots and some dealers have been making purchases. Prices were advanced 1c, the best lots now commanding 16 1/2c. Dealers have also been more willing to contract for the 1903 crop and are bidding 16c; farmers seem unwilling to make many contracts under 17c. The Oregon and Washington crops are doing well, but in California there is no probability that the yield will be more than 45,000 bales. In New York State the yards are looking well and there is promise of a good many more hops than last year. English cable and mail advices report heavy washing of the vines, but vermin are still present in considerable quantities. The estimates of the English crop now run from 400,000 to 450,000 cwt.; the general opinion is that the former will be more nearly correct. Germany expects to grow as many hops as last year, but Austria will have less. The fact that exporters have been buying our hops at this season of year has had a stimulating effect, and with purchases by one of our local dealers of 300 to 400 bales on this market, mostly prime brewing hops at 18 1/2 @ 19c, the feeling is a trifle firmer at the close, and choice lots of both State and Pacific coast are quotable at 20 @ 21c. Other grades range from 19 1/2c downward."

California, good to choice, 1902 crop.....	18 @ 20
--	---------

### WOOL.

There is very little wool at present here in the way of offerings from first hands, and business is necessarily of light volume. Regular Fall clip is beginning to arrive, and as soon as there is enough to warrant the attention of wholesale operators, it is likely there will be some trading and that bids will be in keeping with prices realized in the Spring season. Values in Eastern manufacturing centers are reported to be ruling steady. A shipment of 121,124 pounds was made to New York per last Saturday's Panama steamer.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Lambs, Northern.....	13 @ 14
Lambs, Southern and San Joaquin.....	9 @ 12 1/2

### HAY.

San Francisco dealers have been lately purchasing very heavily, and it is believed have now under control the bulk of the season's output in the region tributary to this center. Market is moderately firm at the range of values quoted, with prospects of hardening rather than weakening as the season advances. Straw is still in light supply and high.

Wheat, good to choice.....	11 50 @ 14 00
Wheat and Oat.....	11 00 @ 13 00
Oat, good to choice.....	10 00 @ 12 50
Barley.....	9 50 @ 12 00
Clover.....	10 00 @ 11 00
Alfalfa.....	10 00 @ 11 50
Stock Hay.....	8 00 @ 9 00
Compressed.....	11 00 @ 14 00
Straw, 1/2 bale.....	45 @ 62 1/2

### MILLSTUFFS.

While there have been fair receipts of Bran and Middlings, there have been no special accumulations, and prices ruling for some weeks past have been fairly well maintained. Market for Rolled Barley ruled quite steady. Milled Corn products were in light stock and were held at high figures.

Bran, 1/2 ton.....	24 00 @ 25 00
Middlings.....	26 10 @ 28 00
Shorts, Oregon.....	24 50 @ 25 51
Barley, Rolled.....	23 00 @ 24 00
Cornmeal.....	33 50 @ 34 50
Cracked Corn.....	34 50 @ 35 50

### SEEDS.

Market is exceedingly quiet for the several kinds quoted herewith, and is without new feature. Most varieties are in too light stock to admit of much activity. The little business doing is at figures warranting no changes in quotations.

Alfalfa, Utah.....	Per cwt. @
Alfalfa, Cal., good to choice.....	@
Flax.....	2 00 @ 2 25
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/2
Hemp.....	3 1/2 @ 4

### HONEY.

This market is showing a generally firm condition, with no heavy stocks of any description. Included in present offerings, however, is some honey which is about perfect in color and flavor. Business is mainly of a small jobbing character and almost wholly on local account, the figures generally asked being too high for the export trade.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	5 @ 5 1/2
Extracted, Amber.....	4 1/2 @ 5
Extracted, Dark Amber.....	4 @ 4 1/2
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	@

### BEEFWAX.

There is a fair demand at quotably unchanged values and not much arriving.

Good to choice, light 1/2 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Beef has been selling at practically unchanged figures, although the general tone of the market was slightly better, the demand showing some increase. Veal was not plentiful, and desirable qualities met as a rule with prompt custom at full current figures. Mutton was in tolerably good supply and in fair request at steady values. Lamb in prime to choice condition commanded as good figures as previously quoted, offerings being of only moderate volume. The Hog market was rather weak at a further decline, but receipts were not very heavy.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6 1/2
Beef, 3rd quality.....	5 @ 5 1/2
Mutton—ewes, 8-8 1/2 c; wethers.....	8 @ 9
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 6 1/2
Hogs, large hard, over 250 lbs.....	5 1/2 @ 6 1/2
Hogs, small, fat.....	5 1/2 @ 5 1/2
Veal, small, 1/2 lb.....	9 @ 10
Lamb, Spring, 1/2 lb.....	10 @

### HIDES, PELTS AND TALLOW.

Quotable values on Dry Hides, and on Wet Salted Hides other than heavy, have been marked down slightly, to be more in keeping with values lately current East. Quotations for Tallow also show moderate reduction.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls
Heavy Steers, over 55 lbs.....	@ 10 1/2 @	@ 9
Medium Steers, 48 to 55 lbs.....	@ 9 1/2 @	@ 8
Light Steers, under 48 lbs.....	8 @	7 @
Heavy Cow Hides, over 50 lbs.....	8 @	7 @
Light Cow Hides, under 50 lbs.....	8 @	7 @
Stags.....	@ 7 @	@ 6
Wet Salted Kip.....	@ 9 @	@ 8
Wet Salted Veal.....	@ 10 @	@ 9
Wet Salted Calf.....	@ 10 1/2 @	@ 9 1/2
Dry Hides.....	@ 16 1/2 @	@ 15 1/2
Dry Kip and Veal, 11 to 16 lbs.....	@ 14 @	@ 12 1/2
Dry Calf, under 4 lbs.....	@ 19 @	@ 17
Pelts, long wool, 1/2 skin.....	1 00 @	1 50
Pelts, medium, 1/2 skin.....	70 @	90
Pelts, short wool, 1/2 skin.....	40 @	65
Pelts, shearling, 1/2 skin.....	15 @	30
Horse Hides, salted, large prime, each.....	2 75	
Horse Hides, salted, medium.....	2 50	
Horse Hides, salted, small.....	2 00	
Horse Hides, dry, large.....	1 75	
Horse Hides, dry, medium.....	1 50	
Horse Hides, dry, small.....	1 25	
Tallow, good quality.....	4 1/2 @	
Tallow, poorer grades.....	3 1/2 @ 4	

### BAGS AND BAGGING.

Very little now doing in Grain Bags, the season's demand being nearly ended. Fruit Sacks are receiving considerable attention, and prices are ruling quite steady. Market for Wool Bags is very quiet.

Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/2
Grain Bags, Calcutta, buyer June-July.....	@
Grain Bags, San Quentin, in lots of 2,000, 1/2 lb.....	5 55 @
Wool Sacks, 4-lb.....	33 @
Wool Sacks, 3 1/2-lb.....	30 @

### POULTRY.

There was little change in this market the past week, either in tone or in quotable prices. There were fair receipts of both domestic and Eastern, the latter amounting to three carloads. While there was a tolerably good demand, it was principally for young stock in prime to choice condition. Old fowls had to be of desirable size and fat to receive special attention from buyers. A large proportion of the old poultry now coming forward is in too poor flesh to be sought after.

Hens, California, 1/2 dozen.....	4 00 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	5 50 @ 7 50
Fryers.....	4 00 @ 4 50
Broilers, large.....	3 50 @ 4 00
Broilers, small to medium.....	2 50 @ 3 00
Ducks, old, 1/2 dozen.....	3 00 @ 4 00
Ducks, young, 1/2 dozen.....	4 00 @ 5 00
Geese, 1/2 pair.....	1 25 @ 1 50
Goats, 1/2 pair.....	1 25 @ 1 75
Pigeons, old, 1/2 dozen.....	1 50 @
Pigeons, young.....	1 50 @ 1 75

### BUTTER.

While there have been no heavy arrivals of fresh butter from any part of the State, the market has been devoid of noteworthy firmness. A few favorite marks sold to fair advantage in a small way, but the demand was far from brisk. Much of the trade is now on Eastern butter, of which there are liberal supplies, and prices generally lower than for same grades of domestic.

Creamery, extras, 1/2 lb.....	24 @ 25
Creamery, firsts.....	23 @ 24



Dairy, select.....	23	@24
Dairy, firsts.....	22	@23
Dairy, seconds.....	21	@22
Firkin good to choice.....	—	@—
Mixed Store.....	17	@18
Pickled Roll.....	—	@—

## CHEESE.

Flats are in much larger supply than custom can be found for at full current rates, and prices are being shaded to buyers to avoid accumulations. Small cheese continue in light stock and in a limited way are bringing tolerably stiff prices.

California, fancy flat, new.....	13	@—
California, good to choice.....	12	@12 1/2
California, "Young Americas".....	13 1/2	@14 1/2
Eastern.....	18	@21

## EGGS.

Fancy are not arriving freely and in a retail fashion are bringing comparatively good figures, some transfers being made at a moderate advance on extreme quotation, but cost of delivery to buyers is generally included in the higher figures. Average qualities of fresh domestic, however, are not commanding much better prices than choice cold storage stock or No 1 Eastern. There are free offerings of Eastern and local cold storage eggs, and many consumers are giving these the preference, owing to their showing better values.

California, select, large, white and fresh.....	27	@28
California, select, irregular color & size.....	23	@26
California, good to choice store.....	18	@22

## VEGETABLES

Onions have averaged higher than previous week, but market could not be termed firm at the advanced figures, inquiry being less active. A shipment of 424 crates went outward per last steamer for Australia. Green Corn was in a little better supply and prices were at a slightly lower range than last quoted. Tomatoes were not in heavy receipt and market for choice inclined in favor of selling interest. Prices for other vegetables in season showed little change from the figures last quoted.

Asparagus, # box.....	—	@—
Beans, Lima, # lb.....	2 1/2	@ 4
Beans, String, # lb.....	2	@ 3 1/2
Cabbage, choice garden, # 100 lbs.....	75	@ 1 00
Corn, Green, # crate.....	1 25	@ 2 00
Corn, Green, # sack.....	75	@ 1 50
Cucumbers, # large box.....	35	@ 50
Egg Plant, # box.....	40	@ 60
Garlic, # lb.....	2	@ 3
Mushrooms, # lb.....	—	@—
Onions, new Yellow Danver, # ctn.....	70	@ 85
Onions, new Red, # sack.....	—	@—
Okra, Green, # small box.....	40	@ 65
Peas, Sweet Garden, # lb.....	2 1/2	@ 3 1/2
Peas, good to choice, # sack.....	—	@—
Peppers, Green Chile, # box.....	75	@ 40
Peppers, Bell, # box.....	30	@ 50
Rhubarb, # box.....	—	@—
Summer Squash, # large box.....	25	@ 40
Tomatoes, # large box.....	60	@ 85

## POTATOES.

Quotable values for potatoes remained close to prices of preceding week, but market could not be termed firm at full current rates, the demand being slow and principally on local account. Extreme quotation for boxes was for select hand picked, the potatoes being of high grade and running very uniform as to size. Sweeties are arriving in moderate quantity from Sacramento River section and are meeting with fair custom.

## POTATOES.

California Burbanks, # cental.....	1 00	@ 1 40
River Reds, # ctn.....	—	@—
Garret Cbille.....	90	@ 1 15
Early Rose.....	90	@ 1 15
Potatoes in boxes, per cental.....	1 25	@ 1 75
Sweeties.....	2 00	@ 3 00

## The Fruit Market.

## FRESH FRUITS.

Apples were in free receipt, but offerings did not include many of high grade, being mostly 5 tier stock or smaller, besides many of the Apples now here are more or less wormy and moth. For these inferior qualities the market is slow at low figures, they being unfit for shipment and many local dealers refuse to handle them. Choice to fancy 4-tier Apples are not readily obtainable in great quantity, and to make liberal purchases an advance on extreme quotation would have to be paid. Apricots have almost had their run; not many arriving and demand for them is not active. Bartlett Pears of high grade met with a tolerably firm market, receiving considerable attention from canners, and were also in good request for shipment. Peaches were in liberal supply and prices for this fruit were not well maintained, especially for other than strictly fancy. Plums were in decreased receipt and tendency of the market for best qualities was to more firmness. Grapes arrived rather freely and prices averaged lower. Nectarines and also Figs were in such light stock as to be hardly quotable. Melons of all seasonal kinds were plentiful and prices were at a low range.

Apples, fancy, # 4-tier box.....	—	@—
Apples, good to choice, # 50-box.....	75	@ 1 00
Apples, common to fair, # 50-box.....	30	@ 65
Apricots, # crate.....	40	@ 75
Apricots, # ton.....	15 00	@25 00
Blackberries, # chest.....	2 50	@ 4 00
Cantaloupes, # crate.....	75	@ 1 75
Crabapples, # small box.....	25	@ 50
Figs, Black, 2 layer, # box.....	75	@ 1 25

Figs, Black, 1 layer, # box.....	50	@ 75
Figs, White, # box.....	—	@—
Gooseberries, common, # lb.....	—	@—
Gooseberries, English, # lb.....	—	@—
Grapes, Fontainebleau, # crate.....	35	@ 60
Grapes, Se d'ess Sultana, # crate.....	50	@ 1 00
Grapes, Tokay, # chest.....	65	@ 75
Loganberries, # chest.....	—	@—
Nectarines, # box.....	—	@—
Nutmeg Melons, # box.....	3 1/2	@ 60
Peaches, # box.....	25	@ 60
Pears, Bartlett, # box.....	65	@ 1 10
Pears, other varieties, # box.....	40	@ 75
Pears, No. 1 Bartlett, # ton.....	30 00	@35 00
Pears, No. 2 Bartlett, # ton.....	12 50	@20 00
Plums, good to choice, # box.....	40	@ 75
Plums, Large Green, # ton.....	15 00	@25 00
Raspberries, # chest.....	4 00	@ 7 00
Strawberries, Longworth, # chest.....	—	@—
Strawberries, Melinda, # chest.....	3 00	@ 5 00
Watermelons, # 100.....	5 00	@18 00
Whortleberries, # lb.....	6	@ 9

## DRIED FRUITS.

The general tone of the market for cured and evaporated fruits is much the same as last noted, being in the main firm, but in new product there is not much doing in this center, sellers being as a rule too stiff in their views for any active trading. Dealers are using their usual tactics to depress the market while buying in, but thus far this season have not met with much success. Market for Apricots continues to show the most strength, this fruit being most actively sought after and selling to best advantage, commanding in some instances an advance on quotable rates. Stocks of old Prunes slow further marked reduction through heavy shipments outward by sea the past week, mainly for Europe. Spot stocks are now light, particularly of the small sizes. In the way of contracting for new Prunes there is little doing at the moment at the prices generally asked, 3@3 1/2 for the four sizes, latter figure for Santa Claras. Apples are quiet, both old and new, but are quotably unchanged, asking rates ruling about the same for this as last year's product. There are some Peaches still on hand of last crop, but very few Pears and practically no Figs. In new crop futures there is no evidence of anything of consequence doing in any variety of fruit. Some dealers are quoting 5 1/2 for choice new Peaches, September delivery. On new crop Pears the range of values talked of is 5@9 1/2, as to quality.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/2	@ 5
Apples, extra choice to fancy, 50 lb box.....	5	@ 5 1/2
Apricots, Moorpark.....	8	@ 11
Apricots, Royal, good to choice, # lb.....	7	@ 8
Apricots, Royal, fancy.....	8 1/2	@ 9
Figs, 10-lb. box, 1-lb cartons.....	—	@—
Nectarines, # lb.....	—	@—
Peaches, unpeeled, fair to good.....	3 1/2	@ 4 1/2
Peaches, unpeeled, choice.....	4 1/2	@ 5
Peaches, unpeeled, fancy.....	5 1/2	@ 6
Peaches, unpeeled, extra fancy.....	7 1/2	@ 7 1/2
Pears, halves, fancy.....	8	@ 9
Pears, halves, choice.....	5 1/2	@ 6
Pears, halves, fair to good.....	4 1/2	@ 5
Plums, Black, pitted.....	4 1/2	@ 5
Plums, Red and Yellow.....	5	@ 5 1/2
Prunes, Silver, good to fancy.....	4	@ 6 1/2
Prunes, in bags, 4 sizes, 2 1/2@2 1/2; 40-50s, 5 1/2@5 1/2; 50-60s, 4 1/2@4 1/2; 60-70s, 3 3/4@3 3/4; 70-80s, 2 1/2@2 1/2; 80-90s, 2@2 1/2; 90-100s, 1 1/2@1 1/2; small, 1@1 1/2.	—	@—

## COMMON SUN-DRIED.

Apples, sliced.....	3 1/2	@ 3 3/4
Apples, quartered.....	3 1/2	@ 3 3/4
Figs, White, in bulk.....	—	@—
Figs, Black, in sacks, # lb.....	—	@—
Plums, unpitted, # lb.....	1 1/2	@ 2

## RAISINS.

Official quotations are without change, but they are for the time being almost wholly nominal. The business at present doing is of light volume and principally of a small jobbing character.

## CITRUS FRUITS.

The Orange market is exceedingly quiet, other and more seasonal fruit receiving the attention at present of most consumers. Late Valentias are about the only variety now on market worthy of a quotation. Lemons are offering at generally unchanged figures, with demand not very active, and market easy in tone, especially for other than most select. Limes are in ample stock, prices remaining the same as last quoted.

Oranges, Washington Navel, # box.....	—	@—
Oranges, Valentias, # box.....	1 25	@ 3 00
Oranges, Mediterranean Sweet.....	1 00	@ 1 25
Oranges, Seedlings.....	2 50	@—
Lemons, California, good to choice.....	1 75	@ 2 25
Lemons, California, fair to good.....	75	@ 1 75
Grape Fruit, # box.....	75	@ 1 75
Limes, Mexican, # box.....	4 00	@ 4 50

## NUTS.

The local jobbing market is dull. Walnuts are practically all gone, and no business reported in futures. The Contra Costa Almond Growers' Association sold this year's crop to the Johnson-Locke Co., the highest bidder, and, according to the Brentwood Enterprise, the following prices were realized: For Nonpareil, 10 1/2; I. X. L., 9 1/2; N. P. U., 9 1/2; Llewelling and Walton Paper Shell, 9; Barclay Paper Shell, 8 1/2; Barclay Seedling, Drake Seedling and Excelsior, 8; Gilt Edge, Texas Prolific, Golden State, Big Flat White, Sellers Seedling and Languedoc, 7 1/2; Pearce Paper Shell and Klondike, 7 1/2; Favorite, Standard and Seedlings, 7; Hard Shell, 5c. The total amount realized was \$32,644. The following prices were paid by Guggenheim & Co. for the crop of the Almond Growers' Association

of Davisville: Nonpareil, 10 1/2; I. X. L., 10 1/2; Ne Plus Ultra, 9 1/2; Peerless, 9c; Drake, 8 8-10c; Golden State and Texas Prolific, 8 1/2; Roulier, 8c; Languedoc, 7 1/2c.

## WINE.

The market has developed no material changes since date of last review, continuing quiet so far as wholesale trading is concerned. Dry wines of last year's vintage remain quotable at 15@18c per gallon, top figure being obtainable only in a limited way on selections. No transactions are reported in this season's wine grapes, and quotable values for the same have not yet been established. The steamer City of Para, sailing on 8th instant, carried 65,088 gallons and 22 cases, including 55,629 gallons for New York. Receipts at San Francisco last week aggregated 254,980 gallons, and for preceding week were 333,810 gallons.

California Almonds, shelled.....	15	@18
California Almonds, paper shell.....	9	@11
California Almonds, soft shell.....	7	@ 8
California Almonds, hard shell.....	5	@ 5 1/2
Peanuts, fair to prime.....	4 1/2	@ 5 1/2
Peanuts, Eastern, hand-picked.....	5 1/2	@ 6 1/2
Walnuts, White, soft shell.....	—	@—
Walnuts, White, standard.....	—	@—

## Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.....	120,469	531,258
Wheat, ctns.....	91,398	180,012
Barley, ctns.....	258,983	505,051
Oats, ctns.....	31,153	98,172
Corn, ctns.....	1,020	7,400
Rye, ctns.....	850	6,890
Beans, sks.....	1,156	10,442
Potatoes, sks.....	23,374	111,992
Onions, sks.....	1,710	17,049
Hay, tons.....	5,962	25,853
Wool, bales.....	1,396	5,625
Hops, bales.....	233	859

## EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.....	67,372	260,416
Wheat, ctns.....	31,538	45,888
Barley, ctns.....	200,327	277,576
Oats, ctns.....	839	2,784
Corn, ctns.....	972	2,317
Beans, sks.....	430	2,447
Hay, bales.....	7,896	19,310
Wool, lbs.....	198,732	761,337
Hops, lbs.....	2,143	21,295
Honey, cases.....	3	50
Potatoes, pkgs.....	559	9,305

ALEXANDER CRAW, Deputy Horticultural Commissioner, with Commissioner Cundiff, examined the orange groves of the valley with special reference to insect pests. Prof. Craw placed a colony of Scutistista Cyanea in orange trees in J. George Hunter's yard on Lemon street a year ago, and he was interested in the development of the colony since that time. The trees were examined and it was found that the parasite is doing a very satisfactory work of eradication on the black scale. In the state of a fly the insect lays its eggs in the black scale, and sixteen or seventeen days later a larva develops which devours the scale. It then develops into a fly and flies away, repeating the process. The Scutistista is a parasite brought here by the State Board of Horticulture from South Africa.—Riverside Press.

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## The Thoroughbred BERKSHIRE BOAR, Highelore Oxford 63442.

Sired by Highelore Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young sows and boars of breeding age from this fine boar and out of choice sows for sale by

OHAS. C. PERKINS, Sacramento, Cal.

## ALMOND HULLERS

—For Sale by—

A. O. RIX, Irvington, Alameda County, Cal.

## W. A. PLUMMER,

Importer and Manufacturer of

## Fruit and Bean Bags, TWINES,

TENTS, AWNINGS AND WAGON COVERS.

111 CLAY STREET,

San Francisco, Cal.

## MALTHOID ROOFING



Made in California where materials are produced. The lowest priced roofing made. Lasts longer than all others. It is weather and water-proof and fire resisting.

Send for booklet.

## The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

## PATENTS

## DEWEY, STRONG &amp; CO.

(ESTABLISHED 1860.)

SAN FRANCISCO, CALIFORNIA, and WASHINGTON, D. C.

OLDEST AND LARGEST AGENCY ON THE PACIFIC COAST.

## WHY TO BE PREFERRED?

BECAUSE--

Inventors have the opportunity to explain their inventions personally and directly to the men who write the specifications and make the drawings, so that all the inventor's ideas will be correctly conveyed, avoiding mistakes and vexatious delays. Inventors living at a distance from San Francisco may, where they so desire, consult directly with our Washington office. Inventors receive the benefit of over thirty years' continuous, successful experience. A description of the patented invention will appear in the Mining and Scientific Press. We have a complete Patent Library, including official records since 1793 and full certified copies of all patents issued since 1872. These are for free examination by any one who desires. We attend to all business connected with patents, such as the preparation of Caveats, Trade-Marks, Design Patents, Assignments, Licenses and Agreements. We make examinations as to the patentability of inventions, searches, and give opinions as to infringements, or the scope or validity of Patents. Our Branch Offices and arrangements for Foreign Patents, Trade-Marks, etc., are very extensive and complete. Inventors' Guide sent free on application.

330 Market St., San Francisco, Cal.

AND

918 F St., Washington, D. C.



## Leg and Body Wash.



When it comes to stiffness and soreness of muscles, tendons, etc., nothing equals

### Tuttle's Elixir

for restoring normal conditions. Apply to the body as a mild sponge bath and put on light blanket. Sponge the legs and put on light bandages.

Used and Endorsed by Adams Express Company.

### Tuttle's American Condition Powders

A specific for impure blood and all diseases arising therefrom. TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.

Tuttle's Elixir Co., 88 Beverly St., Boston, Mass.

137 O'Farrell St., San Francisco, Cal.

Beware of so-called Elixirs—none genuine but Tuttle's.

Avoid all blisters; they offer only temporary relief, if any.

## THE VETERINARIAN.

### Contagious Abortion in Cows.

Frequent applications to the Agricultural Experiment Station of the University of California for information concerning contagious abortion in cattle indicate that the disease is a serious one in California, as it is true in other dairy regions of the United States and Europe. In response to these frequent demands for aid, Dr. A. R. Ward, station veterinarian, has republished an article by an acknowledged eminent authority, Dr. James Law, director of the New York State Veterinary College. The control of contagious abortion is a troublesome matter, requiring the exercise of numerous precautions, the neglect of any one of which may nullify all previous efforts. Dr. Law has achieved marked success by the methods to be hereinafter mentioned, among animals quite closely restrained, as in the dairies of New York State. The article was written with reference to Eastern conditions, and doubtless some of his suggestions may require considerable modification to fit California practice. Some of Dr. Law's paragraphs are given herewith:

**FORMS OF ABORTION.**—Cows are liable to abortion from a great variety of causes, some of which, like mechanical injuries, are purely individual to the animal and show little tendency to extend to other members of the herd. Other forms attack a considerable proportion of the herd at the same time, or in succession, and then appear as if they partook of a contagious character. In many such cases, however, the implication of a number of pregnant cows in the same herd is only a common result of a special injurious condition, to which all are alike exposed, and the removal of this is the signal for the disappearance of the disease. Thus unwholesome food of all kinds which undergoes fermentation in the first stomach, causing the accumulation of gas (bloating), will at times cause a widespread abortion. The consumption of ice-cold water usually stimulates the womb to contraction and the unborn calf to active movements, which can be easily observed in the right flank. This, frequently repeated or carried to excess in susceptible animals, will at times cause abortions. The consumption of irritant vegetables, which have a special tendency to act on the kidneys or womb, are causes of general abortions in herds.

Ergot grasses have long been known as causes of abortion, and the same remark applies to smut and several other fungi. It is true that these cryptogamic vegetable products vary much in their character and strength, according to the variations of the season and the local conditions under which they grow, as well as the time or stage at which they are harvested, so that the ergots and smuts of one year appear to be comparatively harmless, while those of another year or season or locality are very injurious. The fact remains, however, that under given conditions of growth they are unquestionably causes of abortion, and in such cases the abortions are widespread in the herd or in different herds in the same district. Cases such as these are easily mistaken for contagious ones, though there is in the system of the aborting animal no self-propagating germ which would produce the disease if transferred to another animal.

Still other conditions may produce widespread abortions in the absence of any specific contagious germ. On the magnesian limestones of New York,

cows are very subject to small stones in the kidneys during the dry feeding of winter, and when this is added to other existing causes, like the riding of cows in heat, attacks made with the horns of their fellows, squeezing in half-closed gates, over-driving, sloping stalls, or too laxative food, abortions are likely to be induced. In other susceptible animals the proximity to a slaughter house, the sight and smell of dead carcasses, or carrion, etc., will excite a pregnant cow to abortion.

**THE CONTAGIOUS FORM.**—Any of the usual causes of sporadic or accidental abortion may co-exist with the true contagious element and give unusual energy to it, yet it is of the utmost importance to identify the contagion in all cases in which it is present as the essential cause. This can usually be done by a careful inquiry into the history of the outbreak.

When a herd has been continuously healthy up to the time of the introduction of a cow brought from a herd where abortion has been prevailing, and when, following her advent, one and another and another of the original numbers of the herd abort, without any apparent cause in the way of change of feed, water, barn, stalls, or general management, the evidence of the introduction of the element of contagion by the cow in question is very circumstantial and forcible. If pregnant cows standing next to the new cow, or near to her, are among those that early abort, the argument for contagion is still further corroborated. If the trouble continues in the herd year after year, attacking fresh animals some months after purchase, the case becomes still stronger.

Or take another case. A cow is sent from a herd to be served by a bull which has been allowed an aborting cow, and her resulting pregnancy is terminated by abortion before the regular time, and this is followed by successive abortions by different animals in the previously healthy herd. Upon the face of it, an outbreak of this kind is manifestly contagious, and in the absence of any other appreciable cause for the trouble, it may be safely held to be so.

Or, a bull is brought from a herd where abortions have taken place, and after his arrival the cows begin to abort, the first cases being in those which the new bull has served. The occurrence is manifestly due to contagion.

Or, a newly purchased cow aborts and is disposed of in consequence, and another cow, placed in the same stall, in due time aborts also, and others follow in due time, especially those that stood next to or near to this stall. Everything points to an introduced contagion.

Such indications might be varied indefinitely; all variations, however, having the one thing in common, that the evidence of infection stands out prominently and unmistakably. The infection may have been evidently carried by the tail, tongue, soiled stall, litter, gutter, rubbing post, fence, or other object, yet the fact of contagion can be demonstrated with reasonable certainty.

**DO THE SAME ANIMALS ABORT SEVERAL YEARS IN SUCCESSION?**—The question of persistent abortion, year after year, by the same cow, is one of far-reaching importance. If a first contagious abortion entails a second, a third, a fourth, and a fifth in the same animal, in as many successive years, then manifestly her preservation is a mere squandering of money, apart from the danger of her transmitting the disease to other and healthy animals. If, however, on the other hand, she herself fails to abort the second or the third year, yet if she continues to carry in her generative passages the germs of the malady, as potent as ever for evil to other pregnant cows, her preservation in her present condition is a hidden source of the infection that can still spread from her to all new and susceptible cows which may be added to the herd.

It was long supposed that repeated abortion for an indefinite number of successive years was inevitable in the animal which was once infected. There is no doubt that certain cases give

color to this belief. In an organ so nervously susceptible as the womb, there is always a tendency to repeat the abortion under the stimulus of a new pregnancy and the gradual distension and development of the uterine walls. Yet statistics show that this only applies to a small proportion of cows, and these the most excitable and nervous. The tendency toward insusceptibility to the deleterious action of the germ, which still may be present, is in the cow greater as a rule than the disposition toward a nervous increase of the susceptibility. The difficulty in reaching a conclusion on this point depends on the fact that stock owners very commonly dispose of aborting cows, and as the freshly bought cows are sooner or later attacked, it is too confidently assumed that the old cows, too, would have aborted had they been retained. Many years ago observant New York dairymen had noticed that the same cow rarely aborted over three years in succession and the majority not over two. Quite recently the owner of a large herd, who had had much experience with the disease, assured me that the rule was that a cow did not abort a second time. The continuance of abortion in the herd was mainly among newly purchased cows, and others that had not been previously attacked. The same is measurably true of the European abortions. No-card says that after three to five years there is an acquired immunity. Penberthy says that in case of repeated abortion in the same cow, the calf is carried longer each successive year until it comes to its full term. Sand, in his symposium of the experience of Danish veterinarians, says it is quite exceptional that a cow should continue to abort, but outbreaks of abortion disappear spontaneously if no new cows are brought in.

(TO BE CONTINUED.)

## Removal Notice

—OF—

### The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

OUR SPECIALTY IS

## CUTTER'S BLACK LEG VACCINE.

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## PAGE

### 6,000 FARMER AGENTS

are now selling PAGE FENCE to their neighbors. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



### School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER HAYLEN, Pres't.

Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



### Bucket Bowl Separators

Who makes them? All our competitors make them; we have invented something better, and are the only ones who can make the

### Tubular Separators

The Tubular is a distinct type of separator, different from all others, full of improvements that make it better, as you will agree if you examine one. Write for free catalogue No. 131.

The Sharples Co., P. M. Sharples, Chicago, Ill. West Chester, Pa.

## GLENN RANCH, Glenn County, :::: California. FOR SALE In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

### F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## LAND! LAND!

\$11,500. Good general farm, 83 acres, 2 1/4 miles from Stanford University. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

\$30,000. A fine apple orchard near Watsonville, 2 1/4 acres; 40 acres in apples, 40 acres in apricots; with best of improvements, large house, barn, etc. Net receipts \$5000 annually, and increasing. This property assures a continuous income; it is good value. Write for particulars.

\$7750. Profitable hill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and heifers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

I have listed many small fruit ranches in the Santa Clara valley, and town lots in Palo Alto. Write for what you require.

JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

### CHEAP RATES California, Washington, Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO., 26 Montgomery St., San Francisco. G 325 Dearborn St., Chicago. G 338 So. Broadway, Los Angeles.

## WANTED.

A quantity of pure Propoa and Michigan Mixed Seed Wheat, FREE OF OTHER VARIETIES AND FOUL SEEDS.

ADDRESS:

W. W. HALL, Hickman, Cal.

## THE RAISIN INDUSTRY.

A Practical Treatise on Raisin Grapes Their History, Culture and Curing.

BY GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. H. H. Gardner, Prof. Wickson, Mr. Chas. A. Westmore and a multitude of Practical Raisin Growers. Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

### PACIFIC RURAL PRESS,

330 Market Street, San Francisco, Cal.



**W. & P. ROOFING.**

Best wool felt, thoroughly saturated and coated; elastic, and unaffected by heat or cold; will not rust or drip like metal; unaffected by acid fumes or gases; is not inflammable like shingles. Good for mining plants, mills, factories, warehouses — any place where steam or vapors abound; for roofing and lining dry kilns—will stand heat and insulate perfectly; for dwellings, stables, barns, stock sheds, poultry houses—anything needing protection from sun and rain. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.**

**THE "BOSS" TREE PROTECTOR.****Made of Yucca Palm.**

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

**PRICES:**

12 inches long,	\$ 9.00 per 1000
14 " " "	10.00 " "
16 " " "	11.50 " "
18 " " "	12.50 " "
24 " " "	15.00 " "
30 " " "	17.50 " "

Agents Wanted  
Everywhere.

**YUCCA MANUFACTURING CO.,****450 SANTA FE AVE., LOS ANGELES, CAL.****WEATHER VANES**

WAGON and PORTABLE  
SCALES.

HAND, PLATFORM and  
SPECIAL TRUCKS.

HALL'S SAFES,  
The Standard for Over  
Sixty Years.

COFFEE MILLS,  
MONEY DRAWERS, Etc.

**HOWE SCALE CO.**

12 &amp; 14 Pine St., San Francisco. Phone Main 1305.



**IRRIGATORS ATTENTION!**  
WE MANUFACTURE

**ECLIPSE Centrifugal  
Pumps**

AND CAN FURNISH PUMPING PLANTS IN  
ANY SIZE, INCLUDING POWER.

Send for Folder.

**Feeds and Feeding.**By **W. A. HENRY.**

This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH.  
Price, \$2 Postpaid.

**PACIFIC RURAL PRESS,**  
330 MARKET ST., SAN FRANCISCO.

**Largest Nursery**

West of the Rocky Mountains

**CALIMYRNA FIGS**

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

**RESISTANT GRAPE VINES**

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**  
GEO. C. ROEDING, PRESIDENT AND MANAGER  
P. O. BOX 18 **FRESNO, CAL.**

**PERFECT GROWN CITRUS TREES**

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased to send you one.

**SAN DIMAS CITRUS NURSERIES**

San Dimas, Cal.

**California Fruits.**

NEW EDITION (3rd). LARGELY REWRITTEN.

By **PROF. E. J. WICKSON.****CONTENTS.****Chapter.**

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

**Chapter.**

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

**CALIFORNIA VEGETABLES****GARDEN AND FIELD.**By **PROF. E. J. WICKSON, Author of "California Fruits."**

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California  
California Climate as Related to  
Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation.  
Garden Drainage in California.  
Cultivation.  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Radishes.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

**PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.****Cocoanut Oil Cake.**

THE BEST FEED FOR STOCK,  
CHICKENS AND PIGS.

For sale in lots to suit by  
**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.

**The Rialto Canner**

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

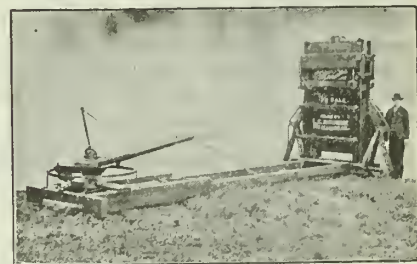
**RIALTO CANNER CO., STOCKTON, CAL.****Free Books for Farmers**

These books are compiled from the publications of the various Agricultural Experiment Stations, and are of great value to all practical farmers.

We mail them free to all farmers who apply for them.

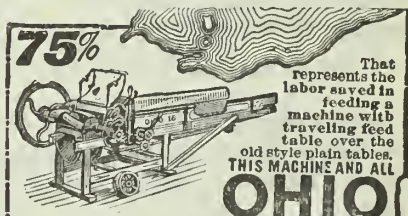
**GERMAN KALI WORKS,**  
93 Nassau Street, New York.

**MEYER, WILSON & CO., San Francisco, Cal.,**  
Sole Agents for the Pacific Coast.

**JUNIOR MONARCH HAY PRESSES.**

Standard and 3/4 Bale Sizes.

Manufactured and for Sale by

**L. C. MOREHOUSE.****WM. H. GRAY, Agent, San Leandro, Cal.****FEED AND ENSILAGE CUTTERS**

are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful

Direct Blast Blower Elevator.

SEND FOR "A Book on Silage"

BY PROF. F. W. WOLL

AN ACRE OF CORN

and its possibilities.

Gen'l Agts.

**HOOKE & CO.**

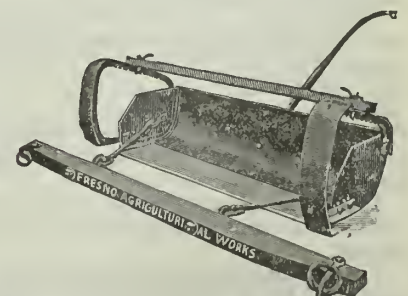
16-18 Drumm St.

**SAN FRANCISCO**

Price, 10c in stamps

**The Fresno Scraper.**

3 1/2-4-5 Foot.



**FRESNO AGRICULTURAL WORKS,**  
**FRESNO, CALIFORNIA.**

**THE NEW EGG FARM.**By **H. H. STODDARD.**

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.

**PACIFIC RURAL PRESS.**

330 Market St., San Francisco, Cal.



## FRUIT MARKETING.

## European Fruit Crops and Markets.

Furnished for publication in the PACIFIC RURAL PRESS by the State Horticultural Commissioner of California.

Report of the Consulate of the United States at Patras, Greece, July 15, 1903:

The present crop conditions confirm my June advices as to size of the current crop in Greece. Weather very good for the crop.

D. MAXIMOS, Vice Consul.

Report of the prune crop at Bordeaux, France, July 15, 1903, by U. S. Consul Albion W. Tourgee:

I have the honor to report that there is very little to say in regard to the prune crop of this district in addition to what was given a month ago—that is, there will be about one-half of the amount of last year's yield, which was about one-fourth of the ordinary crop. Prices are ranging on this basis with an expectation that the California crop will be as reported—one-half short.

As to walnuts, the yield in this district is fairly good. In the neighboring department of Charente it is reported to be almost a failure. The vintage of 1903 in the south of France promises to be very deficient in quantity and poor in quality. Mildew and cryptogamic diseases of the vine prevail almost everywhere. Resulting from the conditions reported early in the season from frost, the outlook is very poor indeed.

Prospects for Valencia and Denia raisin crop, 1903, by U. S. Consul, Valencia, Spain, July 15, 1903:

Since the date of my previous report—June 3rd—nothing abnormal has occurred to change the outlook or modify the estimate then made. A critical period of heat has now set in; but if the grapes, which are a few days later than usual, emerge unscathed from present high temperatures quite an increase of 100,000 cwts. (5000 tons) above the average raisin crop of the past three seasons may be anticipated.

L. BYRNE,

U. S. Vice and Deputy Consul.

Second report Hungary's fruit crop for 1903 by Frank Dyer Chester, U. S. Consul, Budapest, Hungary, June 30, 1903:

Danube, left bank.—Crops will be partly weak, partly full. Best results will be in apples, pears and, in some places, plums. Walnuts are looking very fine.

Danube, right bank.—Crops doing well, but will be less than middle in some places owing to late frosts. Apples, pears and plums will have a middle crop.

Danube, Theiss delta.—There will be a good crop of apples, pears and apricots; only a weak crop expected in other brands. Much fruit has fallen and spoiled in places.

Theiss, right bank.—Early fruits have suffered. Late fruits escaped frosts, but have fallen from drought, and caterpillars are working much damage. Plums will form the worst crop; apples, pears, walnuts, cherries and even apricots are plenty and of good quality in most places.

Theiss, left bank.—Only a third of the normal crops of fruit are to be expected.

Theiss, Maros delta.—Apples and pears will bring largest crops. Blood louse is attacking apple trees in Krasso-Szoreny county. In Transylvania there will be only a middle crop of fruit; particularly will there be very few apples and pears.

Telephone Main 199.

Blake, Moffitt & Towne.

DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

Alfalfa Land \$2 per acre. cash.

50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

## Feeding Beet Wastes.

The use of field and factory wastes, arising in connection with the growth and manufacture of sugar beets, is constantly gaining ground in this State, and yet much remains to be done in turning these refuse materials into valuable animal products. The problem is a very interesting one and one must know what all the world is doing with it before he is well informed. Dr. Lewis S. Ware, who is widely known for his standard works in sugar beet literature has just completed a new volume entitled "Cattle Feeding with Sugar Beets, Sugar, Molasses and Sugar-Beet Residuum," which is published by the Philadelphia Book Co. The work is explicit and rich in details, and tells what cattle feeders everywhere are doing with beet wastes, how they are doing it and with what results. All stock feeders within reach of factory supplies should find the work invaluable. The book is large 8vo, 388 pages, fully illustrated. It can be ordered through the PACIFIC RURAL PRESS for \$2 50 postpaid.

## Breeders' Directory.

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. BURKE, 30 Montgomery St., S. F.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS**. Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**BERKSHIRE AND POLAND-CHINA PIGS**, both sexes. C. A. Stowe, Stockton.

**TEOROUGH-BRED POLAND-CHINA FOR SALE**, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**SANTA TERESA POULTRY FARM**, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**BRONZE TURKEYS**. Ed. Hart, Clements, Cal.

## SHEEP.

**R. H. CRANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY**, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS**, Breeders of all the Leading Varieties of Fowls. Dept. 21, Box 2603, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

## FOR SALE.

**Dairy-Bred Shorthorn Bulls.**

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

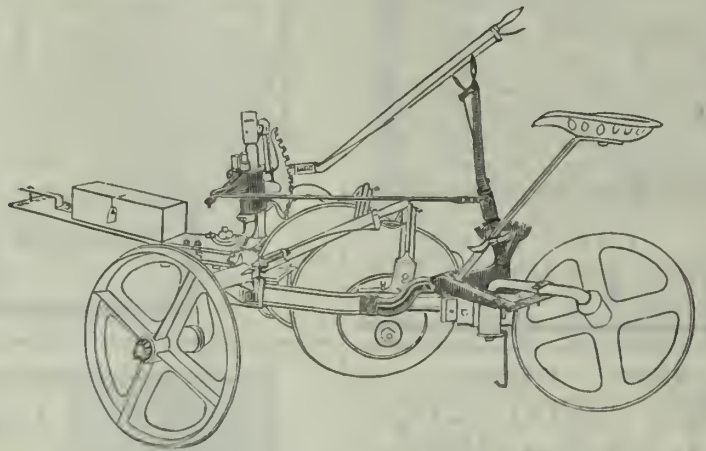
Phone RED 123. J. W. McCORD, Hanford, Cal.

**BULLS FOR SALE.**

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWOHILLA STOCK FARM.

Address... ISAAC BIRD, Merced, Cal.

TWO-DISC  
Benicia-Hancock Plow.

Don't be misled into buying any Disc Plow until you try the BENICIA-HANCOCK in your own field—AT OUR RISK. Other plows may still be improving, but the BENICIA, with its patented features, is away in the lead AND WILL STAY THERE.

Write for circular and our liberal offer to all bona fide intending purchasers of a Disc Plow.

**BAKER & HAMILTON,**  
Sacramento, San Francisco, Los Angeles, Cal.

## STATE FAIR OF 1903

AUGUST 31st to SEPTEMBER 12th,  
AT SACRAMENTO, CALIFORNIA.

50th Annual Exposition  
CALIFORNIA'S

—GREAT—

Agricultural, Horticultural and Live Stock Exposition.  
EVERY DAY A GREAT DAY!

**PROF. W. L. CARLIE** of the Bureau of Animal Industry of Wisconsin, and **PROF. E. W. MAJOR** of the Bureau of Animal Industry of the University of California, will judge all classes of Live Stock and deliver instructive lectures on Live Stock Husbandry.

**PROF. H. E. ALVORD**, Washington, D. C., Chief of the United States Bureau of Dairy Industry, will be present at the Dairy and Creamery Operators' Convention and address same.

**CATTLE—BEEF AND DAIRY BREEDS.**  
Grand Animals—See Them and Try to Breed Some Like Them.

**DRAFT HORSES. SWINE AND SHEEP.**  
The Pick of the World—Come and See the Highest Types of Farm Animals.

Two Weeks of Running and Harness Racing!

GREATLY INCREASED PREMIUMS.

**POULTRY SHOW**—Standard and Fancy Breeds.

**INDUSTRIAL PAVILION DISPLAY**—An Exposition in Itself.

EXHIBITS CARRIED FREE. EXCURSION RATES TO VISITORS.

For Particulars and Premium List, apply to

H. LOWDEN, Acting Secretary, Sacramento, Cal. B. F. RUSH, President.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

**HOLSTEIN CATTLE.**

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders.

Large Number of Officially Tested Cows. Bull Calves from Great Producing Dams. Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.







**OUR CANS**  
HAVE ADVANTAGES  
in construction which you will appreciate,  
while our prices are the lowest.

OUR LATEST DEVELOPMENT IS THE  
**Climax**  
MOUNTED  
**Ensilage Cutter**  
With Automatic Delivery.  
Write for description and prices  
**G. G. WICKSON & CO.**  
34-36 MAIN ST., SAN FRANCISCO.

Well Made **MILK CANS** Well Filled

Not at the Well but Filled from the

**SILO**

Let Us  
Tell You How  
This Can Best be  
Done.





123 NO. MAIN STREET, LOS ANGELES.  
141 FRONT STREET, PORTLAND, OR.

**An Irrigation Incident.**

Captain A. J. Hutchinson, who lost his health in the British army in India, says the Homemaker, sought California to find relief. He came to the country around Lindsay with the idea of bringing water down out of the mountains by open ditch. Such difficulty was encountered that he determined to prospect for water below the arid surface. He found it, and the first large well which was sunk struck a fine flow at 80 feet deep. And in this connection Captain Hutchinson tells an interesting story. This well was a bored one. The pipe, 18 inches in diameter, projected above ground about 4 feet and had attached to it a right-angled pipe, a few feet in length, to shoot the water into the ditch which had been dug to carry it out onto the fields. An old resident of the valley came up from a nearby town to witness, as he termed it, "the fiasco." He stood with his legs wide apart, straddling the ditch like a Colossus of Rhodes, and immediately facing the 8-inch pipe.

"We are just about to start up the pump," Captain Hutchinson said. "I would advise you to move away from there."

"Drive away," said the visitor. "I came up here to see this thing fluke." "Well," rejoined the captain, "that stream will hit you right about in the breast and it will knock you down."

"No water that comes out of that pipe will ever hurt me."

So the pumps were started, the water

gurgled and roared in the pipe, it came up with a gush, and a solid stream shot out from the mouth, striking the scuffer, blowing off his hat and knocking him down as though he had been hit by a cannon ball.

**New Patents.**

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING JULY 28, 1903.

- 734,408.—BOUGIE—F. R. Bachler, Oxnard, Cal.
- 734,802.—MUSICAL INSTRUMENT—G. H. Blair, Spokane, Wash.
- 734,805.—HORSE GROOMING MACHINE—A. & P. Bolund, San Jose, Cal.
- 734,664.—ROPE SOCKET SWIVEL—H. M. Brittan, S. F.
- 734,809.—BOTTLING MACHINE—W. E. Brown, Los Angeles, Cal.
- 735,030.—SUCKER ROD JOINT—E. B. Campbell, Bakersfield, Cal.
- 734,821.—PUZZLE—E. S. Cobb, Los Angeles, Cal.
- 734,832.—PAWL AND RATCHET—H. W. Cooley, Lone Rock, Or.
- 734,828.—STAMP MILL—W. A. Dalton, Tucson, Ariz.
- 735,014.—OIL BURNER—A. Davis, S. F.
- 734,833.—UNDER REAMER—E. Dumble, Santa Paula, Cal.
- 734,533.—STEAM ENGINE—C. L. Fouts, Eureka, Cal.
- 734,848.—CARBURETOR—W. A. Gill, Portland, Or.
- 734,552.—ICE VEHICLE—I. N. Hennessy, Ilwaco, Wash.
- 734,877.—GAME—F. E. Hunt, Buckley, Wash.
- 734,712.—OIL BURNER—F. W. H. Jahn, Los Angeles, Cal.
- 734,881.—BOTTLE—F. Jost, Susanville, Or.
- 734,580.—WIRE CLAMP—D. Lockhart, Hoquiam, Wash.
- 734,920.—TROLLEY CATCH—G. W. Maxwell, Los Angeles, Cal.
- 734,742.—STEERING DEVICE—M. W. Patrick, Niles, Cal.
- 734,747.—NEEDLE—F. J. Rabbeth, Redlands, Cal.
- 734,769.—PEN WIPER—J. J. Stanley, Vallejo, Cal.

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**  
Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.

**GREENBANK** BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



**TOULOUSE & DELORIEUX,**  
620-622 COMMERCIAL ST.  
SAN FRANCISCO, CAL.

**OLIVE MILLS.**  
WINE MACHINERY.  
THE LATEST AND BEST.  
SEND FOR CATALOGUE.

HAVE YOU SEEN THE

**Jack of All Trades**

—A GASOLINE ENGINE

of the most modern type for farm use?

Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."  
**Fairbanks, Morse & Company,**  
San Francisco, Los Angeles,  
Portland, Or.



**Why Use Expensive Power?**

PUMP, SPRAY, SAW WOOD, CUT FEED, CHURN,  
and any other work done better and cheaper with a

**20th CENTURY WONDER**

than you have ever done before.

USES FUEL AT 2c. TO 5c. PER GAL. 1½ TO 30 H. P. SIZES.  
WRITE AT ONCE.  
WONDER ENGINE CO., 321 Mission St., San Francisco.

**MIDLAND FEED.** THE ONLY BALANCED RATION FOR  
POULTRY IN THE WORLD.

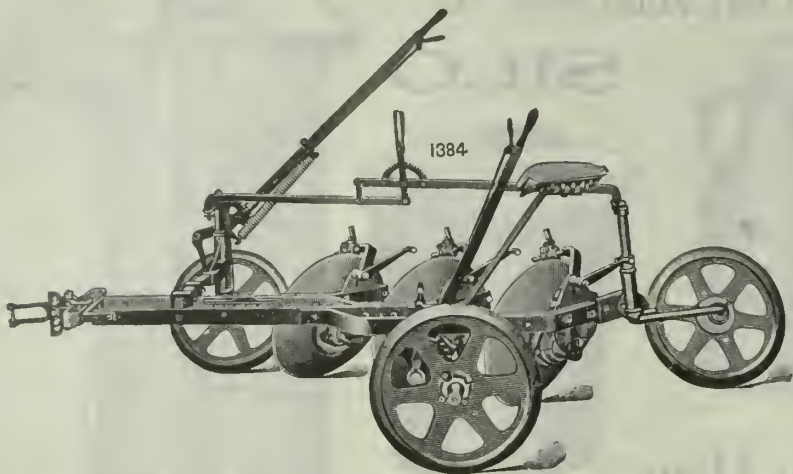
TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.



# AN IMPORTANT POINT



## Deere Disc Plows

**TURN A FULL  
FURROW.**

Made with 1, 2, 3 and 4 Discs.

on all disc plows is the disc bearing. In plowing the pressure is all on the lower half of the disc, and when a simple bearing through the center of the disc is used the leverage against it is great and in hard, dry plowing will wear out very quickly; the discs lose their proper set, becoming more perpendicular and will not enter the ground as they should. The DEERE DISC overcomes this difficulty by using a dust proof, ball-bearing disc with bearings ten inches apart; this reduces the leverage and does away with the friction. Another important point is a landing device which will control the plow independent of the team. These features are to be found in the DEERE DISC PLOWS and no others.

## Deere Implement Co.

209-211 Market Street, SAN FRANCISCO, CAL.

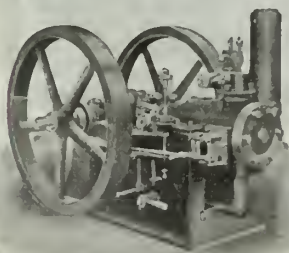


### PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.  
Send for illustrated Catalogue, with Prices.  
**BURNHAM-STANDEFORD CO.,**  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.

Money makes the mare go, but it takes a De Laval to make cows pay.

## Hercules Gasoline Engines



**FOR**

PUMPING WATER,  
CUTTING ENSILAGE,  
SHELLING CORN,  
SAWING WOOD,  
CLEANING GRAIN,  
RUNNING SEPARATOR, Etc.

Complete Pumping Plants Furnished.

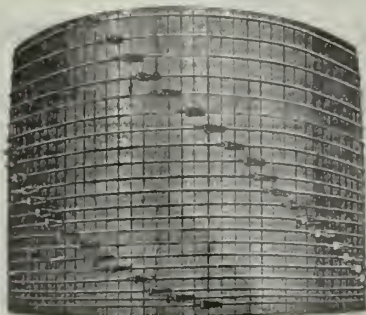
SEND FOR SPECIAL QUOTATIONS.

**Baker & Hamilton,**

SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

## OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**

SOLE MANUFACTURERS,

Fourth and Channel Sts., SAN FRANCISCO.

**C. A. HOOPER & CO., Agents,**  
204 FRONT STREET.....SAN FRANCISCO.

## When 400,000 Farmers

scattered all over the world prefer one make of Cream Separator to all other kinds, it goes without saying that the Separator of their choice must be vastly superior to the other machines.

This is the history of the

## DE LAVAL CREAM SEPARATOR

which possesses the "Alpha-Disc" and "Split-Wing" improvements, and these 400,000 farmers are finding the DE LAVAL CREAM SEPARATOR the best investment they ever made in dairying.

Might not this be true with you, too?

If you need anything in the way of Dairy Supplies, write to us. We carry the largest stock of dairy apparatus and supplies on the Pacific Coast.

Our new "20th Century" Catalogue sent on request; a lesson in dairying on every page.

## DE LAVAL DAIRY SUPPLY COMPANY,

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

Cows and a De Laval Separator make the successful dairyman.

# PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. **DEWEY, STRONG & CO.** (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



is Paper not  
be taken from  
the Libr

CALIFORNIA

# THE PACIFIC RURAL PRESS

State Library  
70.1 Staff August 1903

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 8.

SAN FRANCISCO, SATURDAY, AUGUST 22, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### The Hooker Oak.

A picture is given herewith of one of the most famous of the valley oaks of California. We do not know how it compares with other great oaks. We will give its measurements below, so that our readers who have great oaks can compare them with the dimensions of their own trees and give us the results for publication. It would certainly be interesting to know which is the greatest oak of California and where it is. The tree whose portrait we show is famous because it was the tree which the late General John Bidwell delighted to show to his guests as the best of its kind on his princely estate in the Sacramento valley. One of its most appreciative visitors was Sir Joseph Hooker, the distinguished English botanist, and in commemoration of his visit General Bidwell named the tree the Hooker oak. It is a valley oak (*Quercus lobata*) and it stands in the center of a large open glade, about a mile from the Chico forestry substation of the State University. The following are the dimensions as measured in July, 1894, by Mr. Boland, the foreman of the station:

	Feet.
Circumference of trunk.....	20
Circumference of largest branch.....	15½
Spread of limbs from trunk, on south.....	73
Spread of limbs from trunk, on north.....	63
Spread of limbs from east to west.....	112
Approximate height.....	100

The symmetry of the tree is its charm, and one is



The Hooker Oak, on Rancho Chico, Butte County, California.

### A Log Dam.

There are many places in central and northern California where water now running to waste can be restrained and turned to great value for irrigation purposes. This is true of course of some of our largest rivers and agitation is constantly kept up by far-seeing citizens in the hope that ere long irrigable lands may be multiplied in their producing power and freed from the uncertainty of rainfall. No doubt in a few years there will be great enterprises realized in this direction. At the same time there are many small brooks and streams wholly within the lands of single owners which can be utilized without waiting for great enterprise and engineering. The picture of a log dam in process of construction should convey a hint to many possessors of such opportunities. Logs are abundant along the stream and they are being felled and put in place by the labor of a few men with very simple tackle and appliances. The logs are well lodged in the firm clay banks. The double tiers will be closely set and tied together and the space between will be filled with well tamped clay. This will give a sufficiently tight bank to hold back water to secure its diversion into a reservoir.



Building a Log Dam in a Mountain Stream.

apt to doubt its dimensions until some attempt is made at measurement.

The rich lands of Butte county delight the oaks, and at the University forestry station several introduced oaks have been growing since 1894. Mr. C. H. Shinn, in his last report, says that many now bear acorns. Those left untrimmed are "bushy," branch near the ground and are far behind those that were pruned. The latter, now from seven to nine years old from the acorn, stand from 14 to 15 feet high, with trunks that girth from 8 to 15 inches. One tree, which was several years old when sent to the station, and is therefore about twelve years from the acorn, stands 22 feet high, with a trunk circumference of 21 inches.

### A Ruined Valley.

Some time ago Dr. Marsden Manson of San Francisco prepared for the Sierra Club a very impressive paper, which appeared in our columns, upon the results of forest destruction. He showed the ruin

wrought in the European valleys, as, for instance, in the region of the Caucasus, where man has removed forest covers from the slopes until every stream, every slope, is marked with destruction. The illustration on this page shows how a fine valley floor has been buried beneath torrential debris until its fertility is destroyed. From side to side of such valleys the rock rubbish has been deposited until it is difficult to maintain land routes of travel through barren wastes which should be smiling productive valleys. The lesson should be impressive, and yet in the face of it we are doing just such things in California to-day.



A Valley Ruined by a Torrential Stream in the Caucasus.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.  
Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, August 22, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—The Hooker Oak, on Rancho Chico, Butte County, Cal.; Building a Log Dam in a Mountain Stream; A Valley Ruined by a Torrential Stream in the Caucasus, 113.  
EDITORIAL.—The Hooker Oak; A Ruined Valley; A Log Dam, 113. The Week, 114.  
QUERIES AND REPLIES.—Home Mixing of Fertilizers; Protection Against Rabbits; Grass for Moist Land, 114. Dipping Raisins; Sun and Air in the Seed Bed; Penicillaria; Winter Growth for Summer Use; Bees in an Attic; A Kissing Bug, 115.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending August 17, 1903; Temperature and Rainfall, 115.  
THE APIARY.—Detection and Treatment of Foul Brood, 116.  
THE POULTRY YARD.—The Chicken Mite, 117.  
HORTICULTURE.—Queen Anne's Orangery; Irrigation in Sonoma County, 118.  
THE STABLE.—Palo Alto Stock Farm; The Zebrula vs. the Mule; The "Sleepy Grass," 118.  
THE DAIRY.—Cheese Lose Less Weight by Curing, 118.  
AGRICULTURAL REVIEW.—119.  
THE HOME CIRCLE.—A Sigh for a Pocket; Mrs. Dibble's Rest Cure, 120. Signs and Symptoms in Infancy; The Care of C. o. thes; Hints to Housekeepers; A Cannery Kindergarten; Domestic Hints, 121.  
THE MARKETS.—Produce Market; Fruit Markets, 122.  
FRUIT MARKETING.—The French Walnut Crop; Hungary's Prune Trade in 1903; A Carload of Fruit; Santa Clara Prune Situation, 124.  
THE VETERINARIAN.—Answer to Inquiry—Malignant Sarcoma; Contagious Abortion in Cows, 126.  
MISCELLANEOUS.—That First National Work; New Patents, 127.

## The Week.

As we go to press, the Grand Army Encampment is at its height and the city is beside itself. The report is, and the streets testify to its truth, that San Francisco has never entertained such a throng, and experts say that it has never been done with so little trouble and discomfort to the visitors. To add 50,000 to the population of the city within two or three days time, without difficulty and discomfort, shows that the metropolis of the Pacific coast has not only a cordial, hospitable spirit, but has material capacity as well. So far as we can learn, the guests are having the time of their lives. They are pleased with all the unique and striking manifestations of welcome, they are interested in the resources and productions of the country which are evidenced by the stated displays which are made for their benefit, and they seem to have great endurance and energy considering the age which has necessarily come to veterans of a war of forty years ago. The affair promises to be a full success in every way. Even the normal fog and wind blusters of August weather seem to be softened to the comfort of people who have, for the most part, come from parts of the country where the dog-days are warm, and the bracing air of the Pacific is helping the fine old people to keep the pace set for them by the youngsters of the Spanish war. The whole affair is full of life and pleasure to all participating.

In the interior the week has been rather quiet, for all who could be spared from pressing work have come to the city—local trains from all parts of the State running full. Quite a departure from midsummer quiet in the south is a local wind storm which played about San Bernardino, trying to emulate some of the pranks of the wind in the tornado districts, and considerable rain fell; but it was only a local affair—a product of adjacent desert influences. Some trees and barns suffered, but no wide injury was done.

Speculative wheat rose 3c a bushel in Chicago since our last issue, then lost a part of the gain and closes with another rise in prospect. Local speculation follows closely the same course. Spot wheat for milling is firm but for export is a little unsettled. No clearance of breadstuffs has occurred except a lot of flour for Asia. Five more ships go on the engaged list. Four spot charters run thus: two for wheat at 15s 3d and 15s 9d: two for straight barley at 16s 3d to London and 15s 9d to Antwerp. Barley

is firm and unchanged except that feed barley is higher. Other cereals are as before. Beans are quiet and steady: the Eastern market is unsettled with an upward tendency owing to unfavorable weather in Michigan. Millfeeds are unchanged but there is little better supply of bran and middlings from Northern millers. Hay receipts are large but bought before arrival and values are steady. Beef and mutton are unchanged: with hogs a little lower but firm at the new level. Butter is higher and cheese steady. Choice fresh eggs are scarce and tending upward but not materially higher yet. Poultry is in good supply but the market is in bad shape because of the quantities of Eastern alive and dressed with which hotels and restaurants have stocked up heavily. Potatoes are in heavy supply and lower but choice bring good prices. Salinas Burbanks are arriving. Sweet potatoes are in free receipt and selling well. Onions are quiet and easier. Tomatoes are higher and in good demand and green corn sells well, though other vegetables are rather weak. Cannery are hunting fine Bartlett's at \$40 per ton, but will not give a quarter as much for defective. Dried apricots are firm and held above the views of local buyers—selling better in the country than here. New peaches are not in, except in samples, but are said to be selling freely in the San Joaquin. Oranges are in light demand; lemons are quicker, but not higher. Walnuts are held at 11½@12c, which buyers claim is above cost of landing European nuts. Almonds are steady and reselling freely on the basis of recent country sales. Honey is firm, with little doing; comb is scarce. Old hops have cleaned up well and the market is firm. Wool buying is proceeding briskly in the country, but nothing is doing here. Interior sales compare well with recent years and are higher than a year ago.

The grape growers and wine makers' meeting at St. Helena, for which we published the call by Congressman Bell in our last issue, was well attended and spirited. A general discussion was held and complete unanimity in favor of a strenuous effort to secure protection for the pure product against adulteration. Committees duly appointed have already begun work. At a meeting in this city there was a free discussion of local conditions and the Eastern situation, and it was determined that the measure to be presented to Congress for enactment should be drastic in its provisions, and that the product of the American vines should contain nothing except the pure juice of the grape to entitle it to be considered pure wine. On the return of Congressman Bell from Washington in October, it is expected that there will be a final meeting between him and the committee of wine makers; that the pure wine bill will be then drafted and submitted to the other members of the California congressional delegation, and as approved by it be introduced into Congress. Some modifications in it may be necessary to meet the views of Ohio and New York vineyardists, but in any event the foremost position in the enactment of a pure wine law will be taken in California. Such an effort will have a wholesome effect upon the outlook of the local wine industry. There are too many "four-story brick vineyards" in various parts of the country. It seems to be the sense of the present movement that all wine not a product of the pure grape shall be required to be branded in such a manner as to show its true character, and also that such wines be heavily taxed.

The Raisin Growers' Association has issued notification that unless the shortage of 14,000 acres, which is necessary to the successful operation of the Association, be signed to the contract by Sept. 1, the Association will be declared off for the season, unnecessary expenditures of Association funds cease, all contracts be returned and the office closed. The directors will meet on Sept. 1, either to proceed or to close up, as the growers decide. If the shortage should be brought in, the directors believe, under present conditions, that a price for raisins can be named at that time equal to those of the season of 1900, which were 6, 6½ and 7 cents, and will guarantee an advance on all deliveries in the sweatbox of 3 cents per pound on standard raisins. But if on Sept. 1 the Association is declared off, the scramble will commence all down the line to realize on the crop

in from thirty to sixty days by growers, packers and jobbers alike, and where will the producer land? Such a statement seems to be justified by the record of the past. It is hard to believe that the growers will throw away the mastery of the business which they have labored so hard and so long to secure.

The fruit shipments overland still keep a little in advance of last year, as at the close of last week the figures were 3688 cars, as against 3646 to an even date last year. It is a pretty even race so far numerically, but the advantage in values is strongly on the side of this year, because so much better distribution has been secured. Besides this we have a very active demand for dried fruits of nearly all kinds, with buyers pursuing the goods into the orchards and country packing houses.

Don't forget that the State Fair will open August 31 and continue two weeks. The county contest for the fine premiums to be awarded for displays of local products promises to be brisk, and other features of the fair are along the same promising lines.

## QUERIES AND REPLIES.

### Home-Mixing of Fertilizers.

TO THE EDITOR:—I am a regular subscriber to your interesting journal, and I shall feel obliged if you or any of your readers can tell me whether there is any machine of a comparatively inexpensive character that would be suitable to use in connection with the mixing of fertilizers; some machine that could be used with a small oil engine? I presume that many orchardists in California do their own mixing of potash and phosphate, but if they do not use machinery I should feel obliged if you tell me how the work is carried on.—J. H. R., Wellington, New Zealand.

We are not aware that machine mixing has been employed on our ranches. If so we would be glad to hear of it and the mechanism which is used. The common practice of those who buy simples for home compounding is to put out the materials in heaps on the sides of a large, tight floor or a piece of hard-baked smooth ground swept clean. From these side piles of the ingredients shovelfuls are thrown toward the center—the number of shovelfuls according to the proportions which each simple is to sustain to the whole mixture. Then the mixture is shoveled over and over until the operator thinks he has shoveled enough to suit him. So far as we know, everyone is in favor of having the mixing done in the factory, if he can assure himself that the mixture contains what he thinks he is buying, and under the operation of the new law greater confidence is in order on this point. There seems to be in this State a greater disposition toward applying simples singly, each at the time of the year and the season of growth which reasonably calls for it, according to what is known of the solubility and availability of the material. There is still much to learn on this point, and some refinements of knowledge are being freely indulged in in advance of demonstration.

### Protection Against Rabbits.

TO THE EDITOR:—Is there some kind of paint or lime wash as a preventive against rabbits in a young fruit orchard? I have used lime and coal oil, but this cracks off. I have a wire around the fences.—E. L. H., Payette, Idaho.

By using old tallow or some rank-smelling grease, stirring it into the wash while still hot from the slaking of the lime, you will get a whitewash which will hold on well and be at the same time more distasteful to the rabbits. If you do not care for the protection from sunburn which the whitewash affords, and wish merely to repel rabbits, open the carcass of a rabbit and rub the bark well with it. The taint thus imparted is quite effective.

### Grass for Moist Land.

TO THE EDITOR:—I have some low, damp land that has water standing on it for weeks at a time in the spring of the year. In a dry year fairly good wheat has been raised, but in a wet year the land is difficult to work. The soil is a black adobe. I desire to raise some crop that will not have to be planted annually and which will be suitable for cattle feed. Do you think I could raise timothy hay from such land, and, if not, what do you advise me to plant?—FARMER, Hopland.

On the low, moist land subject to overflow, of which you speak, English rye grass will probably be the



best plant for you to grow. Timothy succeeds in California only in the extreme north. It has a bulbous root, which is seriously injured by the heat and drouth of midsummer in other parts of the State. Rye grass will endure almost any amount of water and at the same time will maintain its life during the dry season if little moisture is present. It starts early in the fall and makes good winter feed, while the natural pastures are dormant. It is rather coarse and stemmy for hay, and yet, if cut early, answers very good purposes.

Dipping Raisins.

To THE EDITOR:—Will you be kind enough to furnish a correct process for bleaching Thompson Seedless in your next issue, and oblige very much a subscriber to your valuable paper?—SUBSCRIBER, Madera.

There is some variation in the practice, according to individual judgment of what is best, and according to local conditions and buyers' views. We can only give a general outline of the process. Some use a lye as weak as one pound of caustic soda to fifteen gallons of water; some use the dip nearly twice as strong, and others work between these limits—the stronger lye makes the lighter colored product. The dip should be boiling hot and kept at that heat while being used. The purpose is to slightly cut the skin of the fruit, and when that is just right must be learned by experience. The length of time in the dip varies according to strength and the thickness of the skin—from ten to twenty seconds immersion is the range. The skin should have only minute cracks, not large lesions. Some rinse by plunging the dipping basket or crate directly into pure cold water; some dispense with the rinsing, claiming to get a brighter color. Dipped raisins are dried in partial shade or finished at least in stacked trays. We would like very much to have comparison and discussion of methods by those who use the method.

Sun and Air in the Seed Bed.

To THE EDITOR:—I notice your reply to the query on ginseng seedlings on page 66. I fear that the cause of the moss is lack of aeration under the cloth, and it is possible that this will impede healthy leaf action. If such is the case it will lead to trouble. The present arrangement of lath and cloth system is defective for healthy plant conditions in ginseng culture. The better way is to leave a 2-inch space between the laths and on this tack cheesecloth in strips of 3 inches wide to hang down like drapery. This will give free ventilation and permit of proper light conditions. The position of the plantation should not be at right angles with the direct rays of the sun at noon. If such it is, the position of laths with cloth should be tacked diagonally. Wire could be used in place of lath and the strip of cloth pinned on.—J. F. LITROOR, Everett, Wash.

This is interesting and suggestive. We doubt, however, if it is so much lack of air as of just sufficient touch of the sun. The cloth and lath shades of our seed beds in California do not have sides or ends: they are simply umbrella-like, and moss will form even with full circulation of air if the shade is too dense. For instance, we can get plenty of moss on the ground surface on the north side under the shadow of the dense head of a Phoenix palm and none on the south side of the same plant. The air is free to circulate on one side as on the other, but the dense shade keeps the surface continually damp on the north side, and there the moss appears. It is even claimed sometimes that moss forms on the backs of our silurian citizens who sit too long in tipped-back chairs on the sunny piazzas of country hotels. Unquestionably aeration is exceedingly important in closed-in seed beds and frames, but just the right touch of the sun is a great thing also.

Penicillaria.

To THE EDITOR:—Enclosed please find clipping with reference to a new fodder plant called penicillaria. Will you kindly give me what information you have on this subject, as to its growing without irrigation in the gray adobe (rolling foothills), such as we have here in Tehama county? also as to its suitability as a fodder plant.—READER, Red Bluff.

The penicillaria was not first introduced by the gentleman named in the clipping, but was growing more than twenty years ago in Fresno county and elsewhere. A portrait and description were given in the PACIFIC RURAL PRESS about 1880. It is a coarse plant, chiefly desirable because it will stand the intense heat of the interior plains and deserts, and one

would not think of growing it where other better plants could be made to succeed. It seems to be now most popular in the Colorado desert in the new settlements where irrigation water has been introduced. With heat and moisture enough we presume it would make green growth up to the weight claimed for it and would grow with water on soil too poor for corn. It will also make an immense bunch of coarse leaves, which probably nothing but a goat would eat after they become mature. Still, fed green and where better plants are hard to grow, it may serve a good purpose, but one is likely to get little but disappointment in trying to grow it upon dry foothills without irrigation. The old name of the plant is "pearl millet," and most seedsmen can furnish it under that name.

Winter Growth for Summer Use.

To THE EDITOR:—In the Queries and Replies department of your valuable paper you give some valuable advice to your subscribers. I am very much in need of help of this kind. We have ten acres, about three of which are in trees, garden, berries, etc.; the remainder I keep for hay for a cow. Conditions are such that it is practically impossible to raise alfalfa or any other crop that will be green in summer. I have thought that my best plan would be to sow my hay land to Canadian field peas or Niles peas in the fall and cut them in the spring for hay to feed my cow during the summer. Do you think this a good plan? Is the Canadian field pea or the Niles pea good for hay, and would they be valuable as a milk producer? If either of the above are not good for what I want, can you suggest any other crop which would answer the purpose? Will you tell me where I can obtain the seed for the Canadian field pea or the Niles pea? How many pounds should be sown per acre for hay? What time should they be sown so that they would be fit to cut for hay soon after the rains stop in the spring?—TENDERFOOT, Sacramento county.

You are on the right track. The proper way with many a small piece of land is to get a good winter and spring growth with rainfall to feed during summer, and not pasture the piece in the winter and then buy hay and millfeeds during the dry season. If you have seven acres you can pasture half of it during the winter and spring and use the other half for the growth of summer feed, and next year rotate the cow onto the other piece, etc. Probably the best plants you can use are oats and peas sown together—about a bushel of oats and fifty pounds of field peas evenly broadcast and covered with a harrow. Seeding in February after the coldest weather is over is best for this combination in the interior. The oats will help the peas to stand up and the crop can be readily cut with a mower and handled as a hay crop. To be safe from mildew the cut must be allowed to cure a little drier than ordinary grain hay. Other things which you might do would be to put in some rye as soon as the ground is well wet down by the fall rains and feed this before the pasturage comes on, for rye grows at a lower temperature than most of our wild forage plants. You can also get a winter growth on a patch of mangel wurtzels and feed them, after the pasturage dries up, with the oat and pea hay, adding succulence to the ration and maintaining the milk flow. You will be surprised how much you can grow on a piece of good land handled so as to turn the winter and spring rainfall to the best advantage.

Bees in an Attic.

To THE EDITOR:—Would you kindly let me know how I can get rid of a number of bees that have taken up their quarters in the corner of my attic? The building is so constructed that I cannot get at them from the inside or outside without cutting away from the braces, which I do not want to do. They fly in and out from a space below the shingles in the corner of the building. I do not care to either capture or save the bees.—FRANK H. BURKE, San Francisco.

The best way would be to kill the bees with sulphur fumes. Arrange to burn considerable sulphur in an iron pail or pot, raising it on a pole so that the fumes from the burning sulphur will have access to the entrance used by the bees. If you can rig a cover in some way with an outlet so as to direct the smoke against this entrance, it will be likely to take more smoke, and yet burning sulphur on the alighting board in front of the hive entrance kills the bees. The accumulation after killing the bees ought to be removed, else its decay will be quite noticeable, probably.

A Kissing Bug.

To THE EDITOR:—Will you kindly tell me through the PACIFIC RURAL PRESS what this inclosed bug is?—CONSTANT READER, Lancaster.

It is one of the so-called "kissing bugs," which were so popular a few years ago. Its specific name is Melanolestes pispipes. Its sting is painful and sometimes produces quite serious irritation.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 17, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

SACRAMENTO VALLEY.

The weather during the week was comparatively cool, but favorable for fruit and all farm operations. Grain harvest is completed except in a few places, and thrashing is progressing rapidly. Wheat and barley are somewhat below the average, but of excellent quality. Hop picking has commenced in some sections and will be general during the present week. The cool weather has been beneficial to deciduous fruits, which have developed slowly and are of good size and flavor. Fruit picking, shipping, canning and drying are in progress; in most places the crops are above average. Grapes are ripening rapidly and harvest is progressing in some sections; the crop is reported heavier and of better quality than that of last season. Early grapes are being shipped in carload lots from Sacramento. Citrus fruits are in good condition.

COAST AND BAY SECTIONS.

Cool weather continued during the week, but higher temperature prevailed at the close. Fogs in the coast districts were beneficial to hops, corn and potatoes, but retarded fruit drying to some extent. Grain harvest is completed in some sections and progressing in others. Thrashing and hay baling continue. Wheat, oats and barley are of good quality, but the yield is below average in most places. Hops have made wonderful improvement recently and the crop will exceed early estimates. The cool weather has retarded the ripening of grapes, but the crop is in excellent condition and will be heavy; picking and shipping are in progress. The peach crop in Sonoma county is very large; it is reported that many tons of the orange clings will go to waste, as the canneries refuse to handle them.

SAN JOAQUIN VALLEY.

The weather during the past week has been clear and warm during the day, and cool at night. The grain harvest is nearly completed in all sections, and a good portion is being shipped to market. The fruit crop is ripening fast, and cutting and drying establishments are making good progress in handling the crop. Large shipments of peaches, pears, prunes and plums continue to Eastern markets. The deciduous fruit crop is of excellent quality, but in some sections lighter than last year. Watermelons are being shipped in large quantities from the Fresno district. Potatoes and onions are a good crop. Egyptian corn will be a large crop. The grape crop will be large, and is generally making satisfactory progress, although some sections complain of slowness in coloring. Stock of all kinds are healthy and in good condition. Irrigating water is scarce.

SOUTHERN CALIFORNIA.

Warm, sunny weather prevailed during the week in the interior, but along the coast it was cooler and foggy. Grain harvest continues in some sections and is completed in others. Heavy crops of wheat, oats, barley and hay are reported in nearly all districts. Sugar beet harvest is progressing rapidly; in the Santa Maria district the crop is the heaviest ever raised, owing to the large irrigated area; in the vicinity of Anaheim the crop is somewhat lighter. Beans, corn and vegetables are doing well. Grapes are ripening rapidly and give indications of a heavy yield. Peaches are maturing and other deciduous fruits are in good condition. Walnuts are dropping, owing to blight. Citrus fruits are thrifty, and young oranges are showing satisfactory growth.

EUREKA SUMMARY.—Grain thrashing and hay baling are progressing. August unusually cool and cloudy along the coast where grain ripened slowly, but very rapidly in the interior. Vegetables yielding average crop.

LOS ANGELES SUMMARY.—Chino beet sugar factory opened latter part of week; samples so far show 15% to 18% sugar. Valencia late oranges being shipped from some places in Riverside county.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 19, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.16	.29	.25	.19	66	52
Red Bluff.....	.00	.03	T	.05	104	58
Sacramento.....	.00	.00	T	T	98	52
San Francisco.....	T	T	T	.02	72	50
Fresno.....	.00	.03	T	T	104	56
Independence.....	.00	.00	.30	.09	96	62
San Luis Obispo.....	.00	.00	T	.03	94	50
Los Angeles.....	.00	.00	T	.03	80	56
San Diego.....	.00	.00	.92	.08	80	62
Yuma.....	.00	.03	.11	.31	112	74



## THE APIARY.

## Detection and Treatment of Foul Brood.

Mr. R. L. Taylor, a Michigan bee keeper, prepares for an Eastern bee journal a very interesting detailed account of his method of detecting foul brood and treatment for reduction of the disease. It will be helpful, in some of its features at least, to our readers, though California conditions may differ considerably from those with which Mr. Taylor is familiar.

**DETECTING THE DISEASE.**—The first point that claims serious attention is the distinguishing of the diseased colonies from the healthy ones. This is a matter that is attended with more or less difficulty, at any season of the year, but with more at some seasons than others, except in cases where the disease has made considerable progress. In these cases even one with no experience need have no hesitancy in coming to a correct decision. All the ear-marks of the malady are but too evident; the weakness of the colony, listlessness of the bees, the repellent odor, the ragged cappings of the brood, the shapeless dead brood and the general unprosperous appearance of the combs and the honey make the diagnosis easy.

But if the colony be yet strong, and but slightly affected with the malady, the case is quite different. If it be in the fall, after breeding has ceased, or in the spring before it has begun, the bees, owing to the strength of the colony, have almost, if not entirely, removed the cappings from the diseased cells, the odor is faint, if not practically absent, and the colony appears prosperous, so that even the adept, on a hasty examination, is liable to be deceived, and one without experience is sure to be. The diagnosis of those of this sort is the most difficult of all, and the difficulty increases with the slightness of the affection. How, then, may the disease be discovered in such cases? Let us go to one of the colonies badly diseased and take from the center of the brood-nest a comb—the newer it is the better—in which there has been brood during the past breeding season. Now we will hold it in a good light, so that the light falls upon the comb not quite perpendicularly, but at an angle of 70° or 80° from the top of the comb; now we look down at an angle of about 40° from the top of the comb into the cells, and what do we see? In many of the uncapped cells on their lower sides—not bottoms—we see brownish, not grayish black, scales nearly as wide as the cells, and reaching nearly to the opening of the cells. These scales are the remains of brood destroyed by foul brood.

We will spend a little time in looking at them to fix in our minds the image of their forms; will examine the other side of the comb and even take out one or two more to look at. If the colony is weak, many of the affected cells retain a fraction, or the whole, of their cappings; but, in any case, there are many with no capping. If the colony has been afflicted with bowel trouble, one, on a careless examination, might take the scales to be dried excrement, once half liquid, but we look carefully and see that they are always in the same position and of the same size and shape, which would not be the case if they were excrement.

We will now return to the colony but little affected and take out and examine, one after another, the combs in which brood has been reared during the past season. Now we see the scales at a glance. There may be but half a dozen in some of the combs, and in some none at all. It is safe for us to pronounce the colony diseased, and to treat it accordingly; but this test is not quite so certain as one we shall be able to apply when brood rearing has been under way for some time and settled warm weather has come. I say it is not quite as certain, for the sole reason that in one or two cases I have known the scales of brood dead from other causes than foul brood, though, in those cases, I think the scales were all finally removed by the bees.

**AT THE OPENING OF THE HONEY SEASON.**—We will now go forward to apple bloom, or to the opening of white clover. If the colonies we visited earlier have been left undisturbed, we will examine them again in the same order as before. Providing ourselves with some toothpicks, or bits of straw, we go to the sicker colony of the two for its thorough examination, and proceed with the greatest deliberation, for we are trying to learn to distinguish foul brood with absolute certainty. Having an eye out continually for the appearance of robbers, which must be taken as a signal for closing the hive, and postponing further examination, we raise the cover. If we are on the leeward side of the hive we may catch a faint whiff of the ill odor that proceeds from the diseased brood, as the cover is raised, but we make sure of it by bending over the hive with face near the top of the combs, but we do not unnecessarily prolong this part of the examination, for the scent is by no means pleasant, nor worse than that of colonies badly affected with diarrhoea, perhaps—not so bad, but quite different—something like that of a poor quality of glue as it is warming for use, or like that of a dead animal after it has lain and decayed and dried for weeks in the open air. With a little practice we

shall not be liable to mistake the odor, and we shall find it of considerable assistance in discovering the disease to the extent that often the necessity of lifting combs will be precluded.

Now, we will take out two or three combs from the center of the brood-nest, and look for the peculiarities in their appearance or contents. At the first glance, one who takes delight in seeing his bees prospering would have a feeling of depression come over him without realizing the reason for it. But we easily discover the reason. There is plainly a general appearance of shiftlessness, slovenliness and squalor. The combs are too dark, and without the natural clean look. The bees do not cling well to the brood, but slink away; the cappings of the brood do not have the pretty, clean, slightly convex appearance, but some are flat, or even concave; many are perforated, some slightly, others in a greater degree, and are more or less ragged.

Now we will look into the cells. Some, not capped, contain larvæ of a clear, pearly luster, others have nicely rounded cappings—all these are as yet healthy. In the cells with sunken, perforated and ragged cappings, and in many of those not capped at all, we see larvæ of a brownish color of various shades from slightly yellow sometimes to the prevailing hue of a dark, dirty brown. These are all dead. Did they die of foul brood? We can surely tell by trying them with our toothpicks. We open some of the sunken and perforated cells and insert the sharp end of the toothpick into the remains of the larvæ the different cells contain. The skin of each one goes to pieces with a slight touch, and a slight turn converts it into a homogeneous, glue-like mass of the color of coffee when prepared with milk for drinking; and on withdrawing the toothpick the matter is drawn out in a string a half inch, more or less. It is foul brood, and the toothpick is the supreme test. There is no foul brood without viscosity, and no viscosity without foul brood.

**NECESSITY FOR CAUTION WHEN EXAMINING INFECTED COLONIES.**—The toothpick, as used, we must dispose of with care to prevent the contamination of healthy bees. We may burn them in the smoker; and it is an additional safeguard to have always at hand a dish containing a weak solution of carbolic acid in which to wash tools and hands before manipulating a colony that may prove to be healthy.

Now, we must go and examine the colony but slightly affected, for the detection of the disease in such a one requires some patience and care. On opening the hive, if we have a "good nose," we may, on applying it to the top of the combs just over the center of the brood-nest, possibly distinguish slightly the characteristic odor of foul brood, but very likely we may not be able to do so. We then remove combs from the center of the brood-nest. On a cursory view everything looks prosperous—the colony is strong, the brood is compact and abundant, and of a general normal appearance, and the bees are working energetically. But if we look carefully we may see here and there a cell the capping of which has lost its lively appearance. It is a little too dark, and is slightly flattened. We must have recourse to our toothpick. One breaks the suspicious capping. Yes, the larva is dead and discolored. The toothpick touches it with a slight turn and is withdrawn, bringing the stringy tell-tale matter with it. Other similar cells are found. There is no question but that it is foul brood.

**HOW TO PREVENT THE DISSEMINATION OF THE DISEASE.**—Now that it is established that foul brood has a foothold in the apiary we must make every effort to prevent its further dissemination. It might be asked, Why not do that by curing all the diseased colonies? The reply is that the periods of time when that can be done quickly and safely are limited, both in number and extent. The temperature must be warm enough for comb building, and security against robber bees must be had for the necessary operations, so that a time of waiting of greater or less length is pretty sure to intervene, hence the necessity for taking precautionary measures. And first, and most important, is the guarding against robbing. We must make a weak colony secure against the possibility of being attacked. The weak colonies are the ones by far the most likely to be diseased, so we will make sure not only that the entrances are small enough for successful defense, but also that the bees have sufficient spirit to make the defense. We will sacrifice, without hesitation, any infected colony that will not fight.

**WHAT MAY BE DONE WITH MEDICATED SYRUP.**—If the character of the time is such that the bees will take syrup, this may be taken advantage of by feeding diseased colonies a quart or two of medicated syrup made by mixing one ounce of salicylic acid in sufficient alcohol to dissolve it, in about twenty-five quarts of a not too thick syrup or honey. This will be found very helpful; and we will not omit to avail ourselves of it as fast as the diseased colonies are discovered. I have found that this medicated food stops the spread of the disease in the hive, and, no doubt, on stronger grounds, prevents the spread of the contagion to other hives. If the time be early spring, as we find colonies which were badly diseased the previous fall, before giving the food we will remove from each some of the combs which contain the dead larvæ, and leave the bees only the ones which

have few or none. These will prove sufficient until a cure can be effected; and the withdrawing of the combs with the greatest amount of affection will be a very decided advantage to the colony.

**UNITING WEAK COLONIES.**—We are now supposed to have critically examined the entire apiary, and distinguished each diseased colony by a prominent permanent mark, and to have given each a supply of medicated syrup. We will now keep each supplied with this syrup until the flowers yield fairly well. In attending to this we shall find some of the colonies that are taking but little or none of the food; these we will unite either with each other, or with others that are stronger, putting two or more together as rapidly as it can be safely done. I say safely done, because two colonies standing some distance apart among healthy colonies may not be brought close together at one movement, for that would be likely to send some of the bees into healthy colonies. They must be brought together gradually so that all the bees will be brought along. We will make the united colonies strong by putting a sufficient number together to make them so, for weak ones will prove to be of little if any value.

**USE OF COMBS FROM COLONIES THAT HAVE DIED.**—There is one other preliminary matter that must be attended to, and that is the examination of the combs of colonies that have died during the winter. Diseased colonies are particularly liable to perish, and a larger proportion of the dead ones will no doubt be found to be of that class. The status of each is to be determined in the same manner that we determined the condition of the colonies examined for foul brood early in the spring before brood rearing had made much progress; that is, by looking for the scale-like remains of the larvæ which perished the previous year.

It will be understood, of course, that all diseased combs—that is, all combs from diseased colonies—bits of comb and honey must be kept at all times where no prying bee can by any chance get access to them. These are the readiest means of the spread of the disease. The honey may be extracted from combs containing sufficient to make it worth while, boiled well for at least fifteen minutes, then medicated and used for feeding. But unless one has conveniences for keeping all combs and honey safe they should be burned up at once. However, with care, there is no good reason why the wax from the combs, and most of the honey, should not be saved. Every one must consider his own conditions to determine how he can best dispose of them without incurring risk.

**GETTING RID OF THE DISEASE.**—We now come to the final and indispensable operation for effecting a cure, and that consists simply in transferring the bees from their own combs to hives furnished with frames of foundation or frames with starters. I have not found it necessary to disinfect the hives containing diseased colonies, so, if found more convenient, the combs may be taken out, the bees brushed and shaken in front of the hive, and the hive furnished with frames of foundation.

**AT WHAT SEASON TO DO THE WORK.**—The operation may be successfully performed at any time during warm weather, if only sufficient allowance of time is made to enable the bees to complete their combs before the cool weather of the fall comes on. May, June and July are the best months, and of these about the beginning of the white clover flow would be the most favorable time of the year for beginning the work. This is so both because it is the best time for the bees to build up without any care, as well as because it is the time when robber bees are least likely to be troublesome.

At this timely season let us go into the apiary with the necessary hives, ready furnished, to undertake the work. We find many that were but slightly diseased strong and almost in condition to cast a natural swarm. Each one of this class is moved a little aside and one of the prepared hives put in the place of each. Now, from each one take out the combs with the bees and shake the bees off in front of the new hive, making sure that the queen goes with them, until we have a driven swarm, leaving sufficient in the old hive to care for the brood. Now we have a driven swarm from each one, and the old hives with the brood. Within a week or ten days we will see that each of the latter has given it a good young queen, or a ripe queen cell, and in twenty-one days we will take away all the old combs and replace them with frames containing foundation or starters. This disposes of this class, and will surely effect a cure. It would be more than useless to give them another set of frames and another shaking out.

**THE TREATMENT OF WEAK COLONIES.**—Now we go back to the weaker class. These we will take in pairs. We select the first pair, set one of them aside and put a new hive in its place and shake out the bees as in the former case—only get about half of all the bees and the queen out. Now we put the old hive with the brood in the place of the other one of the pair, and bring that other one and shake out the bees and queen in like manner in front of the new hive, then take back the old hive and unite it with the one already on the stand, thus getting from the pair one new one, with the bees and the two queens, and one united old one with the brood that will be wanting a queen in a few days, and a new set of



frames in three weeks, as in the former case. The rest are to be treated in like manner.

A good part of the success of this plan is owing to the medicated food given during all the fore part of the season. Without that the colonies would have been in comparatively poor condition, which would have entailed an increase of care and labor.

The cure may be effected during any part of the three months mentioned, or even in August, but the giving of medicated food must be resorted to unless the field is yielding an abundance for comb building.

Sometimes the brood from several colonies may be given to a single one, and that one treated later.

Without feeding during a dearth, absconding is pretty sure to take place.

## THE POULTRY YARD.

### The Chicken Mite.

Dr. John J. Repp, Veterinarian of the Iowa Experiment Station, has just completed a careful study of the chicken mite, and published the results in Bulletin 69 of that station. We take therefrom the parts which are of widest practical interest.

**THE MITE AND ITS WORK.**—The mite (*Dermanyssus gallinæ*) attacks other species of domestic fowls besides the chicken, also, at times, becomes a serious pest to horses stabled with fowls or near them and even becomes parasitic upon man. My observations have demonstrated that chickens infested with mites are exceedingly unprofitable. The cost of keeping them is increased and the income from them is very much reduced. Indeed, when badly infested they are totally incapacitated for performing work.

The hens will cease laying. The ovaries undergo atrophy and on autopsy will be found shrunken and unsuitable for work. In several flocks on which I made observation I found that egg production was greatly reduced or altogether prevented during the spring and summer when, under normal conditions, it would have been at its height.

Hatching hens will often either die on the nest as a result of the mite infestation or will leave their eggs, literally driven away by the vast hordes of mites which accumulate upon them. In a case of three hens which thus died upon the nest in one flock of sixteen hens I could find no tissue change on post mortem examination which would account for death. There was, however, an anemia, or impoverished condition of blood, such as would be produced by the sucking of the blood by the mites.

Another very important feature of the evil effects of mites is the injury they do to newborn chicks. If the hen survives the ordeal to which subjected while hatching, the young chicks are attacked by the mites in great swarms as soon as they leave the protection of the shell, and, as a rule, the majority of them will succumb. I have known the loss of newborn chicks from this cause to reach 90%.

Chickens, both old and young, will become reduced in flesh and lose the energy for hunting and scratching, which is so necessary to their welfare. The feathers will become roughened and drop out, the head will become pale and the chicken in every way presents an unthrifty and unhealthy appearance. Broilers which are being prepared for market will not thrive well and will turn out in the end to be unprofitable, in fact a loss to the owner. In addition to the sucking of blood the mites further reduce the vitality of the fowls by biting them and disturbing their rest at night. They require more food and are at the same time incapable of converting in it into tissue and energy as would be done by a healthy fowl.

**DESCRIPTION OF THE MITE.**—The chicken mite is commonly considered a form of insect life, although it is not, properly speaking, an insect. The mite has an average length of  $\frac{1}{16}$  of an inch and its width is about  $\frac{1}{32}$  of its length. It has eight legs, by means of which it can move very rapidly from place to place. In color it is light gray with small dark spots showing through the skin. About one in 50 or 100 shows a distinctly red color, varying from a light to a dark red. This red color is due to engorgement with blood. The common white louse of the hen *Menopon pallidum* (Nitsch) is longer than the mite and of a yellowish-white color.

The mites are of peculiar and stealthy habits of life, rather unlike that which one naturally expects from a parasite. Indeed, they are only semi-parasitic, and, as a rule, remain upon the fowl only long enough to secure a meal. They are very active in their movements and seem to be ever on the lookout for a victim. On account of their vigorous and vicious habits they may be styled the wolves of the insect parasites of fowls. The mites hide in crevices and under objects in the hen house during the daytime while the chickens are outside and lie in wait for their return. They lay their eggs and the young are hatched in these hiding places. A barrel affords an excellent hiding and breeding place, as the mites lodge between the staves and under the hoops. In

the nests they are to be found under the straw or other nesting material. It is a noteworthy fact that a place which shows only a few mites on the surface may contain vast numbers in the crevices or under objects. Often they become so plentiful that they overflow the hiding places and appear in hordes upon the exposed surfaces. I have observed them so thickly settled as to cover the upper edge of an inch board and down the sides for a distance of 2 inches throughout 4 feet of its length and at the same time in almost as great numbers in neighboring places. On one occasion when the upper border of the nest box was covered by mites as above described a hen went on the nest to lay. Within ten minutes I noticed that at least three-fourths of the mites had left their position on the box. On lifting off the hen and examining her I found her to be swarming with mites.

**INTRODUCTION OF MITES INTO A FLOCK.**—In one case I was able to determine with certainty that the mites were introduced into a flock by a rooster that had been bought in a neighboring flock which proved on examination to be badly infested with mites. There is no doubt that mites may be carried from one premises to another upon all sorts of intermediate bearers.

To provide against infection of a flock in this manner any new fowls which are brought in from infected premises should be quarantined and treated by dusting with pyrethrum powder until all the mites have been destroyed.

**EXTERMINATION OF CHICKEN MITES.**—In one case I tried to exterminate the mites in a hen house by means of fire applied with a torch, but the attempt was unsuccessful. The flame was applied to the mites that were visible and they were destroyed. But the process was slow and care had to be taken so as not to set fire to the building. As soon as the interior had all been gone over once it was found that the mites covered it as thickly as before, they having crawled out from their hiding places. It was necessary to go over it several times before the number appeared to be appreciably diminished and in a few days they were as plentiful as ever. The application of the flame to all parts is a very slow process and is attended with some danger. It can not be directed into the crevices so as to destroy the eggs or the mites which are in hiding. My experience convinces me that it is impracticable to exterminate mites by means of the flame. The only way in which fire could be made effective would be to burn the entire building.

I next resorted to the use of kerosene emulsion and found it very effective. The emulsion is made as follows:

Take one-half pound of hard soap and shave it into a gallon of soft water and put it on the fire and bring it to a boil. By this time the soap will have dissolved. Then remove the soap solution from the fire and stir into it at once, while hot, two gallons of kerosene. This makes a thick, creamy emulsion which is made ready for use by diluting with ten volumes of soft water and stirring well. It can be utilized as a spray, dip or wash.

It is necessary to use soft water, for hard water decomposes the soap and destroys its emulsifying power. In my experiments I used white laundry soap, but any good hard soap will do.

For the sake of brevity I refrain from recounting my various experiments but will detail in a general way a method of applying the emulsion based upon my experimentation, which will be found effective by those who will thoroughly try it.

**HOW TO PROCEED.**—Make up as much of the stock emulsion as it is thought will be needed. This can be kept in a suitable vessel and a portion taken out and diluted as needed. If the bucket or holder attached to the spray pump holds five gallons, one-half gallon of the stock emulsion should be taken and put into the bucket or holder and four and one-half gallons of soft water added and the whole well stirred. It is then ready to be sprayed on the places occupied by the mites. A beginning should be at a particular place and the whole habitation of the mites sprayed in a regular order of which account should be taken so that the same order may be followed by subsequent sprayings. The spray should be directed with special care into all crevices, holes, joints or other hiding and breeding places of the mites. The first spray of kerosene emulsion will kill within five minutes all of the mites and eggs with which it comes into contact, but many mites will be left in the hiding places unaffected by the spray. Hence the spraying should be repeated as soon as the first spraying is completed. Even this will not kill all the mites, hence a third spraying should be done as soon as the second is completed. At each repetition the beginning should be made at the same place and the same order followed as in the first. These three sprayings done in one day and in rapid succession will destroy nearly all of the mites, but, as my researches have shown, many eggs are left in places untouched by the spray. If mites are seen crawling about the building the next day, it should be sprayed again. One might ordinarily suppose that he had now exterminated the mites. But such is not the case, for, in about three days, a crop of young mites will be found hatched from the eggs which escaped the first spraying. If these would be al-

lowed to go undisturbed, it would not be long until the building would be as badly infested as at the beginning. Therefore, the spraying should be repeated once every three or four days, spraying two or three times on each occasion, for about two weeks.

**INTERESTING OBSERVATIONS.**—The spray should be applied to every part of the building that is likely to contain the mites. In a two-story building they will crawl up the post and find lodgement upon the second floor even if chickens do not go there. In one case I found a colony on the outside of a small door in the second story of a stable in which chickens are kept and which was badly infested with mites. If such a lodging place is overlooked, the mites will not be exterminated. The procedure just described will, with very little doubt be effective in ridding a place of mites, but I would advise that a constant watch be kept and the spraying repeated when mites are seen at any subsequent time. It is not necessary nor advisable to exclude the chickens from their regular coop while the process of extermination is going on except while the spraying is in progress. If the chickens are deprived of their regular quarters, they will be compelled to select temporary quarters which will soon be as badly infested with mites as the old through multiplication of the mites which are carried upon the bodies of the fowls. If the chickens are not required to make a new roosting place, the mites which are carried out by them will either drop off upon the ground and perish or will crawl off into the crevices about the roost and be killed by subsequent spraying.

**BUHACH.**—Extermination of the mites may be hastened by dusting the fowls with pyrethrum powder after they have gone to roost on the evening before the first spraying. The powder will drive the mites from the birds, and, as a result, but very few will be carried out the next day upon their bodies. The powder is applied by means of a powder blower. In practice I have not found it necessary to use the powder, for, as already explained, the mites which were carried out upon the first morning were finally exterminated in other ways. However, if it is convenient to use the powder, the destruction of the mites will be facilitated.

In one case a sack of corn which had been sitting in a hen house and was swarming with mites was removed to a distant building which was not occupied by fowls of any kind. No attempt was made to destroy the mites, yet in two weeks they had all disappeared. Their death was doubtless due to the fact that they had no host upon which to feed. This observation leads to the supposition that if the fowls were kept away from a building infested with mites, the mites would entirely disappear within a few weeks. In practice, however, it would be inadvisable to attempt to get rid of the mites in a certain coop by keeping the fowls out of it and thus starving the mites, for, while the mites would thus be destroyed in then regular hen house, the temporary roosting place would likely soon be as badly infested as the old.

The cost of the remedy is very small. The cost of making thirty gallons of the emulsion is as follows:

	Cents.
Two gallons kerosene at 18 cents.....	36
One-half pound hard soap at 8 cents.....	4
Labor.....	5
Total.....	45

This will be enough to spray the ordinary hen house once.

**SPRAY PUMP.**—In order to insure good results it is very important to have a spray pump which is durable and which acts easily and effectively. Such a pump should be obtained as may be turned to any one of the many farm uses to which a spray pump is adapted. While a very cheap pump may be made to serve in an imperfect manner, it will be found in the long run to be poor economy to try to save money buying a cheap, poorly-made pump. By investing \$7.00 to \$10.00 a desirable article may be obtained. While a copper holder costs more it lasts so much longer than tin as to fully repay its cost. The Bordeaux nozzle should be used. With it one can get a spray of any degree of fineness and the nozzle can be instantly adjusted so as to emit a forcible jet in order to throw the spraying fluid into fissures and holes. There are many good, reliable makes of spray pumps and different kinds may be seen in almost any implement store.

**DESTRUCTION OF MITE EGGS.**—On July 11 a sugar barrel which was used as a nesting place by the hens and which was swarming with mites was sprayed with kerosene emulsion. Afterwards a hoop was removed and was found to be covered on the inside with a large number of mite eggs. These eggs had been thoroughly moistened by the the spray, and the mites upon the hoop had been killed. A piece of the hoop had been cut out and placed under a glass dish. The air was kept moist by placing under the glass dish a smaller dish containing water. Other pieces of the hoop were left lying in an out-building so that they might be under conditions as nearly natural as possible. Observations were kept up until July 20th but the eggs failed to hatch and were at the end of this time shrunken and evidently in such a condition that subsequent hatching was impossible.



## HORTICULTURE.

### Queen Anne's Orangery.

The Orangery, one of the most beautiful of the buildings in the gardens surrounding the historic Kensington Palace—the birthplace of the late Queen Victoria—is to be reproduced as the British National Building at the World's Fair, St. Louis.

The Orangery is considered by English critics as one of the most beautiful examples of renaissance architecture in London, if not in all England. It is in truth an ideal representation of the Queen Anne style of architecture, for the plans were drawn by Sir Christopher Wren under direct orders from Queen Anne and revised and approved by her. The work of construction was begun in 1704. The Orangery was designed for a greenhouse, and since it was built, 200 years ago, it has never been surpassed as a specimen of garden architecture. It was more than a greenhouse, and not only was a treasure house for the Queen's choicest plants and flowers, but was a place where the Queen and her favored attendants delighted to retire and indulge in quiet conference over their cups of tea.

The beauty of Queen Anne's Orangery was appreciated in the time immediately succeeding its erection. With the steady decline in taste during the Georgian epoch it fell into disregard, and when the court deserted Kensington in 1760 the Orangery was abandoned to complete neglect.

Early in the nineteenth century critics saw the beauty of the garden architecture and wrote much about it. An attempt at partial restoration was made, and one writer said in 1820 that it was filled with a choice collection of his Majesty's exotic plants. The same writer said the Orangery was originally built by Queen Anne for a banqueting house, but the highest authorities say that this is not true.

It was on the occasion of her eightieth birthday celebration that Queen Victoria decided to open to the public the state apartment and the grounds surrounding Kensington Palace—the place where she was born on May 24, 1819. It was in this palace where the lamented Victoria passed the early years of her life, and where she was when her accession to the throne was announced. Here it was that she first met the Prince Consort and was wooed by him. The place was filled with pleasant memories and she desired to have the place and grounds open to her subjects.

This was the occasion for the complete restoration of the Orangery—one of the delightful spots of Kensington. Every piece of the old carving had been treasured up, cleaned, repaired and patched in with scrupulous care. The woodwork had originally been painted white, but it was decided that, as the wood was oak, richly and quaintly carved, it would be better to have the natural wood finish and thus retain all the sharpness of the delicate chiseling of the foliated capitals, architraves and cornices. It was eventually decided to stain the interior woodwork with a tone of color like oak. This staining alone involved several processes—washing down, vinegaring over to take out lime stains, sizing to keep the stain from penetrating the wood, staining, varnishing and flat varnishing.

The total exterior length of the building is 171 feet and the width 32 feet. In Kensington the Orangery fronts the south, with the palace for the background. In the World's Fair grounds the reproduction fronts east with Administration Palace—a splendid building of the familiar Tudor-Gothic architecture, forming a fitting background. As a specimen of an unaffectedly ornamented exterior of brick, the front elevation, aiming rather at simplicity and plain dignity than magnificence or grandeur, is admirable. In the center is a section more elaborately treated than the rest, with four rusticated pillars supporting an entablature of the Doric order. Above the cornice, over the central doorway, is a semi-circular window, apparently designed to give light to the roof. On each side of the central section are four high windows, with sashes filled with small panes of glass. At each end are slightly projecting wings, or bays, with window doors extra high, and reaching to the floor level, to admit tall-grown oranges and other plants. These are flanked by rusticated piers. A similar arrangement of windows and niches is repeated at the ends of the building.

The main building at St. Louis will be made larger than the original by the construction of wings extending back from either end. On the lower floor will be offices and rooms for visitors. In a large room on the ground floor will be the banquet hall where elaborate functions will be held.

Great Britain's participation in the World's Fair at St. Louis is on a most comprehensive scale. The Commission, besides obtaining a commanding site for the British Government Building, has obtained space in all departments for extensive displays.

### Irrigation in Sonoma County.

TO THE EDITOR:—I notice in your issue of August 1, 1903, a letter from a correspondent in Sonoma county who claims it is not necessary to irrigate in that county. I have only been here a short time, but have lived about fifteen years in Santa Clara county,

and during this time was employed on several orchards throughout the county. Now, from what I see of the orchards in this vicinity, I should certainly say that many of the old orchards are suffering from lack of moisture, and would have been greatly benefited by a good irrigation last spring. Some of the trees have very light crops, but still they do not look as healthy and vigorous as they should.

In my opinion the orchardists of this county will eventually see the necessity of irrigation when they realize that they get larger crops, a better quality of fruit, and a better profit for their product.

Fulton, August 13.

CHAS. E. BURNS.

## THE STABLE.

### Palo Alto Stock Farm.

The practical closing of the famous Palo Alto Stock Farm was effected last week. The positions of the superintendent and his assistants have elapsed, their services being no longer needed, since most of the stock has been sold. There still remain about 160 horses to be sold this fall, but only enough help will be retained to care for them temporarily.

Senator Stanford founded the farm about thirty years ago and its world-wide fame steadily increased until the time of his death in 1893. Since then Mrs. Stanford has kept it up on a somewhat smaller scale in memory of him, and immense numbers of fine horses have been bred and trained, but no racing engaged in.

For some time past, however, large shipments of horses have been sent East continually and sold at fair prices, until now the time has come to close the farm altogether.

The marvelous success attained in breeding blooded horses and the remarkable speed developed by these animals are matters of history, and will never be forgotten as long as men take interest in horses and harness racing. It was here that Electioneer, the greatest producer of speed the world has ever seen, made his home.

From him sprang more than 1100 trotters and pacers in the 2:30 list. Among the other great horses which made the farm famous were Palo Alto, who made a record of 2:08½; Sunol, 2:08½; Electricity, Hinda Rose and Arion.

### The Zebra vs. the Mule.

German papers say the mule will probably be replaced in the twentieth century by a more efficient animal, as it has been demonstrated that the mule, the cross between horse and donkey, is inferior to the cross between horse and zebra.

Formerly the opinion prevailed that the zebra was almost extinct. The opening up of Africa, particularly the eastern part, reveals these fine animals in large numbers.

Compared with horses and cattle, they possess peculiar advantages, as they are immune against the very dangerous horse disease of Africa and also against the deadly "tsetse" fly. The question was, therefore, raised whether the zebra could not take the place of the mule, commonly used in the tropics. The greatest credit with reference to the solution of this problem is due to Prof. Cossar Ewart, who has been trying since 1895 to produce crosses between horses and zebras, with a view to developing an animal superior in every respect to the mule.

Three species of zebras still exist in Africa: The so-called "Grevy" zebra, on the high plateaus of Schoa; the common or mountain zebra, formerly found everywhere in South Africa; and the "Burchell" zebra, still frequently found.

Prof. Ewart produced crosses from mares of different breeds and zebra stallions of the Burchell kind. The offspring is called zebrula, and on account of its form and general bodily condition—especially the hardness of the hoofs—is specially adapted for all transport work heretofore performed by mules. The zebrula is much livelier than the mule and at least as intelligent.

RICHARD GUENTHER, Consul-General.

Frankfort, July 18.

### The "Sleepy Grass."

We made camp one evening in a beautiful park in the Sacramento mountains of southern New Mexico, which was bordered with spruces and firs and covered with tall grass that, with its green base leaves and ripe heads loaded with heavy rye-like grain, offered a tempting feast to our hungry animals. The moment saddle and harness were off the horses were eagerly feeding. A few minutes later a passing ranchman stopped his team and called over to us, "Look out, there! Your horses are getting sleepy grass," and added, "If they get a good feed of that grass you will not get out of here for a week." We were not prepared to spend a week in that locality, but I was anxious to test the grass, so let the horses feed for a half hour, then brought them up for their oats and picketed them on some short grass on a side hill, well out of reach of the sleepy grass. The following morning, just after sunrise, the cook called my attention to the attitude of one of the team horses,

saying there was sure something the matter with old Joe. The horse was standing on the side hill asleep, his feet braced wide apart, head high in the air, both ears and under lip dropped, a most ridiculous picture of profound slumber. The other horses apparently had not eaten so much of the grass as old Joe, for they were merely dozing in the morning sun, and showed signs of life in an occasional shake of the head or switch of the tail. At breakfast time the others woke up to a keen interest in their oats, but old Joe preferred to sleep rather than eat. My little saddle mare showed the least signs of the general stupor. During the rest of the day the horses would go to sleep at each stop and progress was slow. That night we camped in another park-like valley, where sleepy grass was abundant, but took care to picket the horses out of reach of it. They were hungry and all began to feed eagerly, but old Joe soon stopped, braced his feet and relaxed into peaceful slumber. The next morning when we went to bring them in for their grain all were fast asleep. The stupor lasted about three days, and was too evident and unusual to be attributed to weariness or natural indisposition. After it wore off they showed their usual spirit and energy, as well as appetite. The only after-effect was a gaunt appearance, apparently resulting from lack of energy to get their usual amount of grass. Old Joe had even refused his grain for about half the time. I have offered no real proof that this particular species of grass is what affected our horses, but after our experience I am inclined to give credit to the uniform statements of the ranchmen in regard to it.—Vernon Bailey.

## THE DAIRY.

### Cheese Lose Less Weight by Cold Curing.

In the PACIFIC RURAL PRESS of Oct. 11, 1902, we gave a full account of the experiments on the basis of which Dr. S. M. Babcock of the University of Wisconsin commended attention to the curing of cheese at low temperatures, instead of trying to maintain a temperature of 70° or so, which was the old practice. The latest publication by Dr. Babcock and his associates shows that the low temperature favorably affects the shrinkage during curing. The following are his conclusions:

**INFLUENCE OF TEMPERATURE.**—When cheese are cold-cured, the losses due to shrinkage in weight are greatly reduced over what occurs under ordinary factory conditions. In these experiments the actual temperatures employed were on the average as follows: 36.8°, 46.9° and 58.5° F. Cheese cured at the lowest temperature decreased in weight in ninety days from 1½%, while that cured at the intermediate and higher temperatures lost fully three times as much. This amount would be still further increased if comparison was made between the results of cold curing and existing factory conditions. Under prevailing factory practice, cheese are sold at a much earlier date than is advisable with cold-cured goods; but the loss under present conditions, for even as brief a period as twenty days, is fully four times as great as has occurred in these experiments in a ninety-day period—the minimum curing period recommended—under cold-curing conditions (40° F.). This saving in a factory making 500 pounds of cheese daily would average not less than fifteen pounds of cheese per day for the entire season, or considerably more than this if only summer-made cheese were cold-cured.

**INFLUENCE OF TYPE OF CHEESE.**—In these experiments different types of cheese were used, ranging from the firm, typical cheddar to the moist, quick-curing cheese made for the home trade. The losses with the firmer type were considerably reduced in comparison with the others, but the conditions to which the softer type of cheese were subjected were not as favorable, because of initial delays, and hence the losses with these types cannot be relied upon with such definiteness. As they were exceedingly moist cheese, the total losses from the press were undoubtedly greater than here reported.

**INFLUENCE OF SIZE OF CHEESE.**—The size of package exerts a marked effect on the rate of loss. At ordinary temperatures, the smaller the cheese the more rapidly it dries out. This difference in loss diminishes as the temperature is lowered, and, in our experiments, at approximately 40° F. was practically independent of the size. This condition, however, was undoubtedly attributable to the relative humidity of the curing room, which at this low temperature was 100%.

**INFLUENCE OF PARAFFINE.**—By coating the cheese with melted paraffine the losses at 60° were reduced more than one-half. At the intermediate temperature the saving was somewhat less, and at the lowest temperature the difference was practically negligible.

**SHRINKAGE NOT MERELY LOSS OF WATER.**—As some loss occurs even in a saturated atmosphere, where evaporation is presumed not to take place, it implies that the shrinkage in weight of cheese under these conditions is not wholly due to desiccation, but is affected by the production of volatile products that are formed by processes inherent to the curing of cheese.



## Agricultural Review.

### ALAMEDA.

**HOP PICKING.**—Oakland Enquirer: The hop picking season at the Pleasanton hop yards will open August 27. The Pleasanton hop yards this season cover over 300 acres. The yield promises to be the heaviest in years and a large number of pickers will be afforded employment.

**THE HAY CROP.**—Livermore Herald: Although hay is still being hauled to the local warehouses in immense quantities, the season is approaching its end. Many of the baling outfits are already laying up. Every pound of hay in the valley has been sold at most satisfactory prices, ranging from \$10 a ton early in the season to \$12.25 for some choice lots toward the close. The crop has exceeded expectations, being fully equal to that of last year in quantity, better in quality, but considerably lighter in weight. The warehouses will all be full before hauling ceases. Cars have been plentiful, but there has been less shipping than usual during the season.

### BUTTE.

**THE FRUIT SITUATION.**—Chico Enterprise: The local peach season is very nearly at its best. Cutting and drying are well under way. The crop of Muirs is about an average and the quality very good. Conditions for drying are very good, and those who have erected furnaces feel on the safe side, so that no fruit will be wasted in a rush. The output of dried peaches, on the whole, will be somewhat in excess of the average season.

**ERADICATING DISEASE AMONG HORSES.**—Dr. L. C. Kennon, county veterinarian, is kept busy in testing stock suspected of having contagious disease. He has found several horses and mules within the past week that are undoubtedly affected with glanders, and has placed a quarantine upon three establishments. Of the 10,000 horses and mules in the county, he estimates that 2000 may be subjected to tests, and from recent experience probably not more than two or three out of ten will be found to be affected.

### FRESNO.

**PEACHES AND RAISINS.**—Selma Enterprise: Buyers are offering 5c for peaches this week and contracting for raisins at 3½c.

**A BRANCH OF PRUNES.**—Laton Argus: At the Laguna office there is a twig from a prune tree, with two branches, the whole being 28 inches long, upon which there are sixty fully developed prunes, the twig and fruit weighing three and one-half pounds. The fruit came from Mr. Aicorn's ranch, one-half mile from the Kings river bridge east of Laton. Some of the fruit measured 5 inches in circumference.

**THREE CALVES IN ONE YEAR.**—L. B. Wheeler, whose ranch lies just north of Camden, 6 miles west of Laton, has a cow with a rather wonderful record. In October, 1902, the cow gave birth to an exceptionally fine heifer calf, and on August 3, 1903, gave birth to a very fine pair of heifer calves, just ten and one-half months to a day intervening between births.

**A GREAT HARVEST.**—Reedley Exporter: The greatest harvest run in this section was made this season by Wm. Gramley, whose harvesting outfit made a run of forty-four days for C. A. Coffin, near Smith mountain, and made an average of forty-three acres per day.

### KERN.

**PRIZE PEACHES AND PLUMS.**—Bakersfield Echo: Yesterday's contribution to the Kern county World's Fair exhibit consisted of freestone peaches and Japanese plums from the orchard of C. A. Rae, 1½ mile south of town. The peaches are the Stump of the World variety, and weigh eleven to twelve ounces each; but it is not so much their size as their fine color and perfect shape that recommend them. The plums are Kelsey Japans and are prize winners in size as well as otherwise. Three of them weigh a pound good and strong.

### KINGS.

**SHEEP SHEARS IN DEMAND.**—This is the sheep shearing season, and as an index to the industry we may say that one hardware firm in Hanford has sold this season 960 pairs of sheep shears. Some have been expressed to Fresno and to other points.

**DRIED PEACHES IN DEMAND.**—Hanford Sentinel: The peach crop of Kings county this year is estimated at about 2600 tons of dried goods. Last Saturday all the buyers were out after contracts and buying was lively. We are informed that on that day 2000 tons of dried goods were purchased in this county, and that there were then about 600 tons left which are all contracted for at this time. The return of hot weather is putting sugar

into the fruit and made the market active. The 2600 tons of peaches bought will bring to Kings county growers fully \$370,000. This is all dried fruit and does not take into consideration that which will be canned. Another authority places the total output of dried peaches of the county at 3000 tons.

**A PAYING COW.**—A. M. Stone has a thoroughbred Holstein cow twenty-six months old that is giving forty-three pounds of milk a day. The animal is one born on a train while the dam was being shipped here from the East by G. S. Hewett, and Mr. Hewett took pains to save the calf on the trip.

### MENDOCINO.

**LAST HOPS SOLD.**—Ukiah Dispatch-Democrat: W. A. Ford bought the last lot of 1902 hops from Page & Douglas Wednesday, paying 17 cents therefor. Mr. Ford, who buys for Philip Wolf & Co., bought the first lot sold in this valley, and thus closed up the season by buying the last. The price paid for the lot augurs well for good opening prices for the 1903 crop.

### MERCED.

**MORE GRAIN THAN EXPECTED.**—Express: As the farmers finish harvesting the reports of the yield of wheat and barley grow better. Nearly every farmer has more grain than he thought he had when he began to cut the standing crop. Grain is coming into the warehouses at the rate of from 2000 to 3000 sacks per day.

**SALES OF CORN.**—There have been several sales of corn by parties on Merced river reported within the past few days. The corn is of last year's crop and the price is said to have been \$25 per ton, and the quantity sold more than 500 tons.

**PRICES FOR HOGS.**—John Flannagan sold eighty head of hogs last week for the San Francisco market, realizing \$900. The hogs were raised in the Sandy Mush country and were fed principally on alfalfa.

### MONTEREY.

**BIG CROP OF BEETS.**—Pajaronian: O. H. Willoughby, of Watsonville, returned from a visit to his ranch below Salinas, where he has about 450 acres planted to beets, and from present indications the yield will be about seventeen tons per acre.

**MORE SPRAYING ADVISED.**—Pajaro Transcript: W. H. McGarvey, horticultural commissioner of Monterey county, has requested the orchardists of his district to spray their apple and pear trees twice during the current month—about the 10th and 25th instants. He recommends the use of one-fourth pound of Paris green, four pounds lime and fifty gallons of water as a spraying material.

### ORANGE.

**BEEES IN GOOD CONDITION.**—Anaheim Gazette: County Bee Inspector Pleasant reports that about one-third of the apiaries in the county have been inspected, and that the bees are not nearly affected with foul brood as expected. In certain sections numbers of colonies have been destroyed because of disease, by order of the inspector, and in this work the owners of bees are giving hearty co-operation.

### RIVERSIDE.

**EIGHT CARLOADS OF DRIED APRICOTS.**—Hemet News: P. J. Perrine and others have loaded a car of dried apricots for Mr. Choate. A second car was loaded this week for O. Hoffman, and A. Gregory has ordered a third car. The five carloads sold by the Hemet yards will be shipped later, making eight carloads already sold, with Hemet as the shipping point.

**CARLOAD OF APRICOT PITS.**—A 25-ton carload of apricot pits was shipped Monday. It is reported that the price was nearly \$8 a ton. They were sold by the Hemet Deciduous Fruit Association.

**SHIPPING HONEY.**—Henry Ott and H. O. Morris shipped a carload of honey from Hemet. Bruce Morris drove in with an eight-horse load Friday morning. Five cents a pound is freely offered for honey.

### SACRAMENTO.

**INDIAN HOP PICKERS.**—Union, Aug. 13: Bart Cavanaugh will arrive in this city from the State of Nevada by special train, bringing with him 300 Indians, who are under contract to pick hops in the vicinity of Sacramento.

### SAN JOAQUIN.

**PRICES BID FOR ALMONDS.**—Stockton Independent: Offers of 10c a pound for Nonpareils and 9½c to 9½c for I X L and Ne Plus Ultra varieties are being made, but very few contracts have been signed on this basis, as the growers prefer to wait for a few weeks before selling, expecting more money. Languedoc and Drakes are quoted at 8½c.

**GOOD PRICES FOR POTATOES.**—Lodi Sentinel: The report was received

Wednesday from the islands below Stockton that several agents were offering \$1.15 a hundred for potatoes, yet they were unable to purchase as many as they wished. The rumor that the crop in Colorado had been damaged caused the advance in the market and also set the growers to thinking to such an extent that many of them are of the opinion that they will receive still higher prices. There is a large acreage of potatoes this year and some remarkable yields are reported. On the land of the Middle River Co., a tract of 5000 acres, the crop is running from 135 to 275 sacks per acre. This is the first year that the land has been cultivated and it is very rich soil.

### SANTA BARBARA.

**IRRIGATION PAYS.**—Lompoc Record: The beets in the lower valley that gave such fine promise a month ago of being a fairly good crop are dying out in places because of lack of moisture. In the Santa Maria valley the sugar company, on much better soil, supplemented the rainfall by 20 inches of water with the pump at a cost of \$4 an acre in order to secure a paying crop of sugar beets, and they have succeeded grandly. The value of their crop in gross is estimated at \$100 per acre.

**NO COWS FOR SALE.**—Guadalupe Moon: A. V. Handorf, proprietor of the Iowa Dairy of Los Angeles, was in town Saturday on his way home after a diligent quest for milch cows in this and San Luis Obispo county. He has offered as high as \$80 a head for fresh milkers but he informed us that not a cow could be purchased.

**CROPS NEAR SANTA MARIA.**—Times: The thirteen threshing machines now operating within a radius of 15 miles of Santa Maria, including Sisquoc and the mesa, will thresh close on to 750,000 sacks of cereals this season. The machines average each 1000 sacks per day. The bean crop never looked better at this time of the year and the prospects are that 400,000 sacks will be harvested. Fruit harvesting and drying are rapidly drawing to a close and the growers are well satisfied. The valley's sugar product will figure about three-quarters of a million dollars, making the total output of grain, sugar and beans run up close to the million dollars.

### SANTA CLARA.

**A NEW SEED FARM.**—San Jose Mercury: A five years' lease has been given on 500 acres of land near Coyote for seed raising. The land was taken by Charles Parker and Frank A. Wilcox of the California Seed Co. The company is one of large capital and is fully able to carry out its plans, which are comprehensive and include every department of a well equipped seed-growing business. The land lies between Edenville and Coyote stations, along the line of the Southern Pacific Railroad. Heretofore that section has been given up to grain growing.

**PRICES FOR NEW PRUNES.**—The prices set by the Campbell Fruit Growers' Union for this year's prunes is to be 3½c basis for the four sizes for October delivery.

**MEETING OF GROWERS AT LOS GATOS.**—The meeting of growers in the Pavilion Opera House at Los Gatos, on the 15th inst., for the purpose of organizing a co-operative company, was fairly well attended. There was considerable enthusiasm and 297 tons were signed at the meeting, and sufficient is believed to be in sight to guarantee 500 tons or more for the start. The new movement will soon be fairly on its mission of obtaining for the grower full market price for his fruit. While arrangements have been made to place fruit with the jobbers direct, there is no intention of antagonizing the commercial packer, who will be welcomed at all times to bid upon the fruit in the hands of the Association. A large grader will be installed and the proper packing machinery, so that the grower will be in a position to either sell in original condition or box for the domestic or foreign market.

### SANTA CRUZ.

**HEAVY APPLE SALES.**—Watsonville Pajaronian: This has proved an unusually active week in apple sales and buyers have been on the alert. G. W. Sill states that he has purchased 215 carloads, the heaviest buy he has ever made within such a brief period. Street rumor has it that Mr. Sill paid from 90 to 95 cents per box for the fruit purchased by him, which figures return a nice margin for growers. A number of buyers are in the field and other important apple sales have been reported. In fact the greater portion of the Newtown and Bellefleur output has already been contracted for. There seems to be but little difficulty experienced by orchardists in disposing of their apples this season.

**GOOD RESULTS FROM SPRAYING.**—A count taken by Prof. Clarke this week of the wormy fruit on a properly sprayed Gravenstein apple tree, and that of an

adjoining tree which had not been sprayed, showed the former to have but 3-10 of 1% of wormy apples, while the latter showed a 14% loss.

**NEW ORCHARDS LOOK WELL.**—Young trees never looked healthier or more promising in Pajaro valley than they do at present. When they all come into bearing the apple output in the valley will reach enormous proportions.

### SOLANO.

**FRUIT SHIPMENTS.**—Courier: About 100 carloads of fruit were shipped from Suisun last week. The number will form the maximum weekly shipment for the season. The majority of the shipments consisted of straight cars of pears. The other varieties were plums and Early Crawford peaches.

### SONOMA.

**POULTRY ASSOCIATION DISCONTINUES WEEKLY SALES.**—Santa Rosa Republican: The Santa Rosa Poultry Association has established in San Francisco a permanent market for the eggs of the association. This will do away with the necessity of holding weekly sales in Santa Rosa. The eggs will be regularly shipped by the association to merchants in the city instead of being offered to the highest bidder.

**BIG STALK OF CORN.**—Santa Rosa Press-Democrat: A stalk of corn 11 feet high is on exhibition in a local real estate office. It was grown on the Jesse Peter place, near town.

**VINEYARDISTS WIN SUIT.**—Petaluma Courier: Judge Seawell handed down an opinion in the Superior Court Friday in the action brought by Peterson Bros., vineyardists of Windsor, against Chaix & Bernard, San Francisco wine makers and dealers. The court gave judgment for the plaintiffs for 256 tons of grapes at \$27 a ton; \$7 a ton for 156 tons of grapes, and \$56 expenses. The action grew out of an alleged breach of contract on the part of the defendants, who purchased the whole of the plaintiff's crop of grapes last year.

### STANISLAUS.

**BANNER WHEAT YIELD.**—Oakdale Leader: It is highly probable that a field of wheat containing 123 acres on river bottom recently harvested by E. R. Crawford, will prove the largest yield per acre of any in the county. Besides thirty-six loads of hay cut on the same field and comprising a part of the 123 acres, 2890 sacks of wheat were harvested, an average yield of 23½ sacks per acre. The wheat is of the Club variety and of good quality.

**COW CASTS TWINS AND TRIPLETS WITHIN TEN MONTHS.**—Modesto Herald: John Rask, a well-known rancher 2 miles north of Newman, is the fortunate owner of a remarkable cow. On September 12, 1902, this cow gave birth to twin heifer calves; on July 16, 1903, this same cow gave birth to triplets, two heifer calves and one bull calf. In ten months and four days this cow has brought her lucky owner five calves, all in perfect health and condition. A calf every two months! Mr. Rask has refused \$50 each for the twin heifer calves. The cow is a roan Durham five years old and raised by Mr. Rask. The sire is the same stock and also a roan. Mr. Rask has refused \$100 for the cow "Annie Rooney," because in addition to furnishing all the milk required for the triplets, he gets two gallons of milk a day.

### TULARE.

**GRAPES BRING \$50 AN ACRE.**—Times: S. L. Fraser, a well-known fruit grower, who resides about 2 miles southwest of Dinuba, sold thirty acres of grapes on the vines for \$50 an acre. He also sold his peaches on the trees for a good price, and the figs on 112 trees to be picked by the buyer brought him \$130.

**MORE WHEAT THAN EXPECTED.**—Ex-Sheriff Morgan J. Wells expected to harvest 5000 sacks of wheat from his section of summer-fallowed land at the mouth of Antelope valley. The yield was even better than anticipated, as Mr. Wells finds that he has 5583 sacks of wheat as the result of this harvest.

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## THE HOME CIRCLE.

## A Sigh for a Pocket.

How dear to this heart are the old-fashioned dresses,  
When fond recollections present them to view!  
In fancy I see the old wardrobe and presses  
Which held the loved gowns that in girlhood I knew.  
The wide-spreading mohair, the silk that hung by it.  
The straw-colored satin, with trimmings of brown;  
The ruffled foulard, the pink organdy nigh it;  
But, oh! for the pocket that hung in each gown!  
The old-fashioned pocket, the obsolete pocket,  
The praiseworthy pocket that hung in each gown.  
The dear, roomy pocket I'd hail as a treasure  
Could I but behold it in gowns of to-day;  
I'd find it the source of an exquisite pleasure,  
But all my modistes sternly answer me,  
"Nay!"  
'Twould be so convenient when going out shopping,  
'Twould hold my small purchases coming from town.  
And always my purse or my 'kerchief I'm dropping—  
Oh, me! for the pocket that hung in my gown!  
The old-fashioned pocket, the obsolete pocket,  
The praiseworthy pocket that hung in my gown.  
A gown with a pocket, how fondly I'd guard it!  
Each day ere I'd don it I'd brush it with care;  
Not a full Paris costume would make me discard it,  
Though trimmed with the laces an empress might wear.  
But I have no hope, for the fashion is banished;  
The tear of regret will my fond visions drown!  
As fancy reverts to the days that have vanished,  
I sigh for the pocket that hung in my gown—  
The old-fashioned pocket, the obsolete pocket,  
The praiseworthy pocket that hung in my gown.  
—Caroline Wells.

## Mrs. Dibble's Rest Cure.

"Rest cure—humph!" muttered Mrs. Dibble, who, having hospitably escorted Mrs. Wattis to the door, and urged her to come again, had hastened to post herself at the window affording the best view of her departing neighbor.  
"Rest cure!" repeated Mrs. Dibble, this time with an indignant snort, and at the same moment noting how very badly her late guest's new skirt hung. "Me takin' a rest cure, with three meals a day to get, an' washin' an' ironin' an' bakin' an' cleanin' an' everythin' else, an' jus' my two hands an' feet to do it all! Rest cure—indeed!"  
At the concluding ejaculation, Mrs. Dibble, having watched Mrs. Wattis out of sight, returned to her seat and interrupted task of darning. But something her visitor must have said seemed to be rankling in the good woman's breast.  
"Well, I'd like mighty well to try it," she soliloquized, taking up a stocking. "We'd see how Dan'l would get along then. Maybe he'd realize that 'twould have been policy to have eased me a bit. Thirty years, an' doin' my own work every speck o' the time! There ain't many women who'd have stood it, an' I guess I've been a fool. Yes, a big fool!"  
Mrs. Dibble paused, ostensibly to bite a thread, but mayhap for a brief instant recalling how different had been those years from what she had anticipated on the threshold of her married life. Many a wife has such a bitter retrospect.  
"There's Mrs. Wattis, who never has to stick her nose in her kitchen the whole week through," she continued. "What under the canopy does she want with a rest cure? An' comin' here an' recommendin' it to me—the idea! Seems like the people who don't need things are always gettin' 'em.

Mrs. Wattis, with a girl to do all the work about the house, can go away to a rest cure! An' here I be, wore to shreds, needin' a rest, havin' to stay where I be jus' as I be!"

Mrs. Dibble rolled a pair of stockings into a ball and jammed it savagely into her work basket. Resuming her labor on another pair, she resumed also her one-sided conversation.

"All the rest cure I want is to go to bed an' stay there!" she said, with an emphatic shake of her head. "An' why shouldn't I?" she asked defiantly. "I guess thirty years o' slaving entitles almost anybody to a vacation. Dan'l has his vacations. He's been to St. Louis twice since Christmas, an' even if he does say it's on business, it's a trip an' a change jus' the same."

Mrs. Dibble suddenly ceased the movements of her fingers, and the stocking lay limp and unmolested in her lap. A great plan appeared to be shaping itself in her brain. She stared straight before her; her lips were compressed, so that the downward curve of her mouth was accentuated.

"To go to bed an' stay there—stay until I'm good an' ready to get up!" she murmured mechanically. A glory of determination spread over her thin, wrinkled countenance—the countenance of a woman who had passed from disappointment to dull endurance. Her eyes flashed. "I'll do it!" she exclaimed. "I'll do it! I don't care what happens—I'll do it!"

She rose to her feet and the half-darned stocking fell from her lap to the floor. She did not pick it up—she did not even glance at it.

"I'll go now," she murmured, fearfully, as if awed by her daring. "Then I'll be there when Dan'l gets home."

She stepped hesitatingly toward the door leading off the sitting-room into the adjoining bedroom.

"He'll be surprised. I wonder what he'll say. But he needn't think I'm sick. I want him to understand that I'm jus' tired. Mebbe after I've been in bed a few days he will understand it, too!"

She entered the bedroom and began to undress hastily, her operations accelerated by the apprehension that "Dan'l" would manifest himself inopportunely, and would interfere.

"There!" said Mrs. Dibble, finally prepared to retire. "He can come now any moment he wants."

She slid beneath the covers and heaved a luxurious sigh.

"I declare I don't know what he'll say or do—an' I don't care. He can get somebody in the kitchen, like he ought to have done a long while ago. I shan't do a hand's stroke. Here I be, an' here I stay!"

She turned her face to the wall and stubbornly closed her eyes, her attitude expressing resolute resistance to all overtures by anybody and everybody, and by "Dan'l" in particular.

"I'll eat my meals in bed!" she asserted.

Thereupon, as if she had voiced the climax, she was silent. However, she did not sleep. With the sensations of a venturesome child who had performed a bold exploit, Mrs. Dibble—half delighted, half frightened—bided the inevitable exposure.

Footfalls circled the east side of the house and a vigorous knock sounded on the back door. Mrs. Dibble did not stir. She listened to a heavy tread in the kitchen and a rustle as of packages roughly deposited on floor or table.

"Groceries!" she explained, in her thoughts.

The kitchen door slammed and the footfalls retraced their course to the street.

"I wonder if he brought the celery," thought Mrs. Dibble, and she wriggled uneasily. It did seem so strange to let those things repose uninspected in the kitchen. But she dared it; yes, she dared it! This was the first event on her new programme, and she smiled to herself grimly.

Presently other footfalls traversing the front walk and mounting the front porch reached her ears. A hand fumbled at the knob of the front door. The door was opened, then shut.

It was "Dan'l." She heard him advance through the rather dark hall-

way, stumbling over the rug as he did so (he always kicked up that rug!), enter the sitting-room and halt.

"Marthy!" he called.

No answer.

"Where on earth can she have gone to?" he complained, peevishly—the familiar, regulation remark.

He went into the dining-room, thence into the kitchen.

"Marthy!"

Now he was coming again. Mrs. Dibble caught her breath nervously. She must reply. The denouement was near.

"Oh, Marthy!"

"Here I be, Dan'l, in the bedroom," announced Mrs. Dibble, her voice sounding to her very weak.

Mr. Dibble appeared on the threshold, the door having been left partially open, and stared in.

"Why, Marthy, you ain't in bed, are you?" he exclaimed, peering over at her corner through the dusiness of the tightly curtained chamber.

"Yes, I be," responded Mrs. Dibble, shortly; "an' I'm goin' to stay."

Mr. Dibble hurriedly approached.

"Sick?" he cried. "Where are you worse? Want the—"

"No, I'm not sick," interrupted Mrs. Dibble. "I'm not sick a mite, 'cept o' workin'. I'm just tired."

"I swan!" began Mr. Dibble.

"Jus' tired, Dan'l," continued his wife. "It suddenly come to me this mornin' that I'd been a fool for thirty years, lettin' you let me do everythin' that was to be done about the house."

"Guess mebbe we can get along without help, seein' the family's so small," you said. An' that's the way we begun, an' that's the way we kept on, an' whenever I kind o' hint that a girl would make things easier, you'd say, 'Well, better try it a bit longer, an' we'll see when money gets a little looser. An' now I've tried it jus' as long as I can an' will, an' I'm in bed here to rest an' rest an' rest, an' you can go an' get somebody else to do the scrubbin' an' bakin' that seems to be all you look for in a woman!"

Mrs. Dibble's tones quavered as she made the last statement, but she recovered herself and added calmly:

"I reckon she will be pretty well broke in by the time I'm ready to get up."

"Why, Marthy!" stammered Mr. Dibble.

"There's no use talkin'," declared Mrs. Dibble, with firmness. "It's too late to talk, or say you're sorry. I'm here, an' that's enough. You'll find stuff for dinner on the kitchen table—the groceryman was in; I heard him. An' there's plenty for supper, too. You an' the girl can manage, an' I'm willin' to tell where things are when you don't know."

"But who'll I get?" inquired Mr. Dibble, meekly.

"Sakes alive, I can't say!" snapped his wife. "Only, considerin' you've been thirty years at it, you ought to have some one picked out by this time!"

Mr. Dibble did not retort. He stood awkwardly at the bedside, his mind much confused. His spouse's avowal had burst like a thunderclap upon him. A slow, unobservant man, devoted to his business, it never had occurred to him that his wife ever cast wistful glances at matters beyond the circle of her housework. He had taken it for granted that woman's sphere was the kitchen. Now he did not know what to say. He did not know how to voice the sympathy which he truly felt, nor did he know how to gracefully accept the situation.

"Well, I'm glad you ain't sick," he managed to offer. He shifted his feet uncertainly. "You stay in bed as long as you feel like it, though. I guess I can find help somewheres. There ought to be plenty o' girls."

The figure in the bed did not reply. Mr. Dibble shuffled again and vaguely handled a chair.

"Mebbe I'd better be goin'," he proposed, "so as to have somebody here to get dinner." He retreated to the doorway. "Don't worry," he admonished.

"Oh, I won't worry," assured Mrs. Dibble, sarcastically, as he went out.

Mrs. Dibble remained in quiet, listening to her husband's receding footsteps. She heard him linger irresolutely in the dining-room, then tramp through the kitchen and out of the kitchen door. After that the house was still.

Unexpectedly soon Mr. Dibble returned. He brought with him a companion, for two voices in the kitchen were plainly audible in the bedroom.

"Mercy!" ejaculated Mrs. Dibble, straining her ears. "I do believe its Sadie Loper—of all persons!"

Her fears were confirmed when in a few moments her husband re-entered the chamber.

"Well, I've got somebody already," he announced, buoyantly. "Sadie Loper. I met her down the street. She don't work out, gener'ly, you know, but I told her our fix, an' she come along, an' she says she'll stay for good if the work ain't too hard. But I explained that there wasn't much to do—house small an' fam'ly small, an' so forth. She's pitchin' in at the dinner now."

Mr. Dibble paused, anticipating comment of a congratulatory nature. His wife uttering no sound, he asked, "It's all right, I s'pose?"

"I s'pose so," grudgingly assented Mrs. Dibble.

Mr. Dibble hesitated a second, then retired on tiptoe, as if in a sick room.

Mrs. Dibble, again abandoned, groaned disgustedly.

"To think," she protested, communing with herself, "that I should have that Sadie Loper in my kitchen! Don't work out—Pish! The idea! She can't get anybody to take her, that's why! Why, she'll break every dish in the house!"

"Sadie wants to know where the salt is," called Mr. Dibble from the dining-room.

"It's in a crock on the bottom shelf o' the pantry," informed Mrs. Dibble. "Anybody with half a grain o' sense would have found it without askin'!" she tacked on in a lower voice.

Hardly had her husband conveyed the communication to the kitchen than he was back with another query.

"Oh, Marthy, where is the butter dishes?" he halloed.

"They're where they belong—on the second shelf o' the cupboard!" screamed his wife, exasperated. "Does Sadie think they'd be in the coal shed?"

Mrs. Dibble threshed from side to side with impotent wrath.

"Rest!" she grumbled. "Rest! Me rest with my kitchen goin' to rack an' ruin! She'll melt the spout off the coffee pot, I know she will. She can't cook fit—"

Here a distinct crash came to her ears.

"There! I wonder what's smashed now!" she said, sitting up in bed.

"Dan'l—o-o-oh, Dan'l! Dan'l!"

"Yes, Marthy?" interrogated "Dan'l" from the dining room.

"What was that?" demanded his wife.

"Nothing but the old yellow plate that had the cold beans on," he responded cheerfully. "Now don't you be nervous. We're gettin' on famous."

"I should think you were!" muttered Mrs. Dibble.

"Nothing special you'd like for dinner, is there?" proceeded the speaker.

"No," answered Mrs. Dibble, with ungracious curtness.

"I don't know as I can stand it," she declared, once more soliloquizing. "That yellow plate has been in my pantry ever since I was married, an' never a nick nor crack! I hope she don't get hold o' my blue chiny. Dan'l wouldn't know the difference. I wager he'll have dyspepsy 'fore the week's out. He can't drink biled coffee, an' Sadie Loper is a biler an' frier, if ever there was one."

"Where's the lard?" shouted her husband.

"Right behind the salt—look out it don't bite you," she replied, cuttingly.

She fairly writhed in agony of spirit. "I told you so!" she asserted to herself. "There it is—lard! That means fryin' an' fryin' an' fryin' till the victuals are nothing but grease! An' grease

Mrs. Dibble remained in quiet, listening to her husband's receding footsteps. She heard him linger irresolutely in the dining-room, then tramp through the kitchen and out of the kitchen door. After that the house was still.

Unexpectedly soon Mr. Dibble returned. He brought with him a companion, for two voices in the kitchen were plainly audible in the bedroom.

"Mercy!" ejaculated Mrs. Dibble, straining her ears. "I do believe its Sadie Loper—of all persons!"

Her fears were confirmed when in a few moments her husband re-entered the chamber.

"Well, I've got somebody already," he announced, buoyantly. "Sadie Loper. I met her down the street. She don't work out, gener'ly, you know, but I told her our fix, an' she come along, an' she says she'll stay for good if the work ain't too hard. But I explained that there wasn't much to do—house small an' fam'ly small, an' so forth. She's pitchin' in at the dinner now."

Mr. Dibble paused, anticipating comment of a congratulatory nature. His wife uttering no sound, he asked, "It's all right, I s'pose?"

"I s'pose so," grudgingly assented Mrs. Dibble.

Mr. Dibble hesitated a second, then retired on tiptoe, as if in a sick room.

Mrs. Dibble, again abandoned, groaned disgustedly.

"To think," she protested, communing with herself, "that I should have that Sadie Loper in my kitchen! Don't work out—Pish! The idea! She can't get anybody to take her, that's why! Why, she'll break every dish in the house!"

"Sadie wants to know where the salt is," called Mr. Dibble from the dining-room.

"It's in a crock on the bottom shelf o' the pantry," informed Mrs. Dibble. "Anybody with half a grain o' sense would have found it without askin'!" she tacked on in a lower voice.

Hardly had her husband conveyed the communication to the kitchen than he was back with another query.

"Oh, Marthy, where is the butter dishes?" he halloed.

"They're where they belong—on the second shelf o' the cupboard!" screamed his wife, exasperated. "Does Sadie think they'd be in the coal shed?"

Mrs. Dibble threshed from side to side with impotent wrath.

"Rest!" she grumbled. "Rest! Me rest with my kitchen goin' to rack an' ruin! She'll melt the spout off the coffee pot, I know she will. She can't cook fit—"

Here a distinct crash came to her ears.

"There! I wonder what's smashed now!" she said, sitting up in bed.

"Dan'l—o-o-oh, Dan'l! Dan'l!"

"Yes, Marthy?" interrogated "Dan'l" from the dining room.

"What was that?" demanded his wife.

"Nothing but the old yellow plate that had the cold beans on," he responded cheerfully. "Now don't you be nervous. We're gettin' on famous."

"I should think you were!" muttered Mrs. Dibble.

"Nothing special you'd like for dinner, is there?" proceeded the speaker.

"No," answered Mrs. Dibble, with ungracious curtness.

"I don't know as I can stand it," she declared, once more soliloquizing. "That yellow plate has been in my pantry ever since I was married, an' never a nick nor crack! I hope she don't get hold o' my blue chiny. Dan'l wouldn't know the difference. I wager he'll have dyspepsy 'fore the week's out. He can't drink biled coffee, an' Sadie Loper is a biler an' frier, if ever there was one."

"Where's the lard?" shouted her husband.

"Right behind the salt—look out it don't bite you," she replied, cuttingly.

She fairly writhed in agony of spirit. "I told you so!" she asserted to herself. "There it is—lard! That means fryin' an' fryin' an' fryin' till the victuals are nothing but grease! An' grease



all over the floor, too! I scrubbed that floor yesterday! Oh, I believe I'll have to get up—I jus' believe I will!"

She threw back the covers and put one foot over the side of the bed.

"Say, Marthy, is one bottle o' cream all we got?" queried "Dan'l."

"Never you mind—just wait a minute!" shrieked Mrs. Dibble, as with frantic haste she struggled into a wrapper, and endeavored to attain a presentable appearance. Thrusting her feet into slippers, she sallied forth, descending like an apparition upon the astonished kitchen.

"Why, Marthy!" gasped Mr. Dibble, "you needn't have got up."

"No, indeed, Mrs. Dibble," chimed in Sadie. "I thought you was bent on restin', an', gracious, I can do the work!"

"I've rested enough," announced Mrs. Dibble, tying on an apron. "Dan'l, you go into the settin'-room, where you belong. Now, Sadie, you stay to dinner with us, an' you can help me or not, jus' as you please, but I guess I'd better do the cookin'. There ain't work here for two, anyway."—Woman's Home Companion.

### Signs and Symptoms in Infancy.

Children show more plainly than people "of larger growth" the features of both health and disease. Every mother should know something of the finer indications of both conditions.

The face of a child is a canvas on which is painted, in marked hues and lines, the ever varying conditions within its delicate organism.

The radiant, round and cheerful face of childhood is familiar to all, yet best remembered in its more delicate manifestations by the more observing ones. As much as any one, does a mother need to be a keen observer, and to observe aright rather than wrongly.

Incomplete closure of the eyelids, showing the whites of the eyes during sleep, is symptomatic of many acute and chronic ailments, and shows at least that the balance of health is disturbed.

Movements of the nostrils point to difficulty in getting the breath in greater or less degree, and is characteristic of all diseases which involve the bronchial tubes and lungs, as well as of some affection of the nasal passages.

Contracted brows indicate pain in the head, and a tightly drawn upper lip, pain in the abdomen.

Frequent rubbing of the nose is not necessarily or often a "sign of worms." More likely it is an indication of irritation of the stomach and bowels.

Frequent fretful crying indicates some disturbance of the general system. It may be an earache or hunger, or the pricking of a faulty or ill-adjusted safety-pin, or, to things more serious, it may be.

Crying during or just after a coughing spell indicates pain about the chest.

If it occurs just before or after an action of the bowels, it indicates intestinal pain, as do also tightly drawn-up legs.

In throat and nasal affections, the crying tones will be indistinct, hoarse or nasal in character.

Unwillingness to cry is noted in pneumonia and pleurisy, when the breathing is seriously interfered with. After a child has become old enough to shed tears, it is a bad omen, if, during an illness, there are no tears secreted when the child cries.

As a rule, we do not expect tears to be secreted till after or during the third month, although I have known of one instance where tears were noticed as early as the third week.—A. P. Reed, M. D., in the Household.

### The Care of Clothes.

Too much cannot be said upon the airing of silk and woolen waists after being worn. When removed they should be carefully brushed and mended, if there are any little repairs to be made, and then hung over a waist hanger or the back of a chair near an open window, with the wrong side out. For thin, fluffy waists, or those of handsome silk

or satin, it is an excellent plan to stuff the sleeves with white tissue paper and put the garment away on a hanger.

A charming receptacle for summer shirtwaists, which should always be laid their full length and very lightly, one over the other, may be obtained by taking an ordinary wooden box about 2 feet long by 3 feet deep, and covering it with some pretty cretonne, with the inside covered either to match or in contrasting goods, and the covered lid attached by two or three fancy brass hinges.—The Delineator.

### Hints to Housekeepers.

Shredded lettuce with balls of cream cheese is a delicious salad. French dressing is served with it.

An old frame may be made to look much like the original gold by using one of the cheap gilts and following it with a coat of transparent varnish.

An old camper gives this recipe for a fly and mosquito banishing ointment: One part pennyroyal, two parts castor oil and three parts fine tar. Rub the mixture on exposed parts of the skin when insects are ravenous.

In choosing a wall paper for a small room the effect of space can be secured if a pattern with a perspective is selected. Any design in which a part of the pattern seems to stand out will give this effect, though care must be had not to have too bold or too large a figure.

To make a delectable dessert for six people use one pint of berries, tablespoonful of butter, two eggs, half a cupful of milk, one and a half cupfuls of flour and one large teaspoonful of baking powder. Beat the butter to a cream and the eggs until light. Then mix the two together with the milk and stir in the flour. Grease or butter a deep pudding dish, put the fruit in the bottom, cover with the batter and bake until the batter is well cooked. This will take from a half to three-quarters of an hour. Serve with sauce.

Summer squash is a delicate vegetable, and one not served often enough on the average table. It contains little real nutriment, but is one of those vegetables whose mission it is to assist digestion of other food, and to afford that variety which helps the appetite. Here is one way of cooking it. Two squashes will suffice for an ordinary family. Wash and pare pieces into boiling water and cook for twenty or thirty minutes. Drain off every drop of water and beat with a potato masher until quite smooth. Stir into the squash a small cupful of milk, a tablespoonful of melted butter, two beaten eggs, pepper and salt. Better still, stir all these together, and add to the squash after mixing. Turn into a buttered dish, sprinkle with breadcrumbs and bits of butter, and bake.

### A Cannery Kindergarten.

At the Central canneries in Sacramento, says the Union, many women workers with small children are employed; in many cases they have no one with whom to leave them while they work. To meet this trouble the company has established a kindergarten school in the basement of the establishment, which is large and cool. Clean seats have been arranged and an experienced woman has been secured to attend to and teach the little ones. There is a yard connected with the place, which is covered with clean sand, where the children can amuse themselves and at the same time be out of the way of all danger. There are about fifty pupils in the school at this time.

The company claims that the knowledge to the mother that her children are out of danger and being well cared for enables her to do more and better work, which more than pays them for the expense incurred for the school.

"Why, Johnnie, how much you look like your father!" remarked a visitor to a small four-year-old. "Yes'm," answered Johnny with an air of resignation; "that's what everybody says, but I can't help it."

### Domestic Hints.

**FIGS A LA CREME.**—A very rich fruit dessert is figs a la creme. Steam large figs for fifteen minutes, cut open at the widest end, and fill with a mixture of apricot jam and chopped white walnuts. Close the figs, roll in powdered sugar, and serve with whipped cream.

**RASPBERRY ROYAL.**—Three quarts of ripe, red raspberries and one quart of good cider vinegar. Let them stand together twenty-four hours, then squeeze, strain and measure. To each pint of liquid allow one pound of white sugar. Put all together in a preserving kettle and boil half an hour, skimming constantly until clear. When cool, add to each quart of the shrub a full gill of brandy, bottle and seal.

**BLACKBERRY SHORTCAKE.**—Blackberry shortcake is a little-known but delicious and tasteful dish. For the crust, sift half a pound of flour with a quarter of a teaspoonful of salt and two teaspoonfuls of baking powder. Have ready quarter of a pound of butter which has been washed and placed on the ice until very cold. Cut this through the flour with a large knife and mix with half a pint of boiled milk. Work all together lightly until well blended, then turn out on the moulding board and toss until well floured. Roll out to the thickness of half an inch, then cut into two rounds of equal size. Grease a baking pan and put the rounds of paste upon it, one on top of the other, spreading the under layer lightly with butter. Bake in a moderate oven. Then tear the mounds apart, divide the fruit into two portions, mash one lightly and sugar well, place over the lower round of crust, cover with the upper round, and on top of this arrange the untouched quantity of berries. Serve warm with powdered sugar and plain or whipped cream.

"Mama," said Dolly, after she had listened to a discussion of the day's news, "doesn't the Lord know how big this country is?" "Why, dear," exclaimed mama, shocked, "what do you mean?" "Well," replied Dolly, "the people in New York prayed for rain, and it landed way out in Kansas!"

### LAND! LAND!

**\$11,500.** Good general farm, 83 acres, 2 1/4 miles from Stanford University. House 11 rooms, large barn, rich soil, running water, quick demand for all produced on the place; a bargain and easy terms.

**\$30,000.** A fine apple orchard near Watsonville, 2 1/2 acres; 40 acres in apples, 40 acres in apricots; with best of improvements, large house, barn, etc. Net receipts \$5000 annually, and increasing. This property assures a continuous income; it is good value. Write for particulars.

**\$7750.** Profitable hill dairy, 670 acres, with creamery plant complete, house, barn, etc., in the beautiful and fertile Carmel valley, Monterey county; 50 cows and heifers go with the place; easy terms. For sale CHEAP, several chicken ranches near Monterey.

I have listed many small fruit ranches in the Santa Clara valley, and town lots in Palo Alto. Write for what you require.

JOHN F. BYXBEE, Palo Alto, Santa Clara County, Cal.

## GLENN RANCH, Glenn County, : : : : California FOR SALE In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## To Stock and Dairy Men.

We have for sale a ranch of 421 acres, all fenced, on the Tuolumne river, 1 mile from railroad station 5 miles east of Modesto; one-half the land in irrigation district. It has 300 acres in a fair; 40 acres of timber land, bearing probably \$5000 worth of wood; good family orchard, including orange, apple and orange trees; and 5-room house, 2 barns, sheds, shops, windmill house and tank house, all in good condition. Lateral No. 1, Modesto district, runs through the ranch. The ranch will carry 300 head of stock at the present time. Easy terms.

Also, small tracts of size to suit, at from \$30 to \$60 per acre, and on easy terms, in either Turlock or Modesto irrigation districts. Perpetual water right with the land.

ADDRESS, FOR PARTICULARS,

**T. E. B. RICE & SON,**  
Real Estate Dealers,  
**MODESTO, CAL.**

**Alfalfa Land \$2 per acre. cash.**  
50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco

**CHEAP RATES** California, Washington, Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles



Entrance to Park.

Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasturage for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

**KEARNEY VINEYARD SYNDICATE**

KEARNEY PARK, FRESNO, CALIFORNIA



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, August 19, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	79 1/4 @ 80 1/4	80 @ 81
Thursday.....	80 1/4 @ 81	81 @ 82 1/4
Friday.....	81 1/4 @ 82 1/4	82 1/4 @ 83 1/4
Saturday.....	82 1/4 @ 83 1/4	83 1/4 @ 84 1/4
Sunday.....	83 1/4 @ 84 1/4	84 1/4 @ 85 1/4
Monday.....	84 1/4 @ 85 1/4	85 1/4 @ 86 1/4
Tuesday.....	85 1/4 @ 86 1/4	86 1/4 @ 87 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	52 1/2 @ 53	52 1/2 @ 53 1/2
Thursday.....	53 @ 53 1/2	53 1/2 @ 54
Friday.....	53 1/2 @ 54	54 @ 54 1/2
Saturday.....	54 @ 54 1/2	54 1/2 @ 55
Sunday.....	54 1/2 @ 55	55 @ 55 1/2
Monday.....	55 @ 55 1/2	55 1/2 @ 56
Tuesday.....	55 1/2 @ 56	56 @ 56 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 46 1/4 @ 1 47 1/4	@
Friday.....	1 47 1/4 @ 1 48 1/4	@
Saturday.....	1 48 @ 1 48 1/4	@
Sunday.....	1 48 1/4 @ 1 49 1/4	@
Monday.....	1 49 1/4 @ 1 50 1/4	@
Tuesday.....	1 50 1/4 @ 1 51 1/4	@
Wednesday.....	1 51 1/4 @ 1 52 1/4	@

### WHEAT.

The speculative market has been fluctuating considerably, although the range of values for Dec. wheat, the only option receiving any noteworthy attention here, was not so wide as during preceding week, nor were the bounds stepped over which were then established, either on the lower or the higher side. Most of the current week Dec. has been near the \$1.50 mark, but has not quite touched this point. A year ago Dec. wheat was floating within range of \$1.12 1/2 @ 1 14, with No. 1 shipping in the open market quotable at about same figures. There is not much doing in spot wheat at present. No. 1 shipping is not quotable over \$1.50, delivered at Port Costa, this being just 12 1/2c per cental or \$2.50 per ton over the top price quoted at Liverpool for California wheat, but holders here are in most instances either out of the market for the time being or are contending for higher figures. Milling wheat has not been quotable in a regular way over \$1.62 1/2, although in exceptional instances for very desirable lots a little more might be realized, and there are large quantities for which considerably more would have to be paid to secure the wheat at this date. Both shippers and millers are importing wheat in moderate amount from Oregon and Washington. Not much wheat is now going outward from San Francisco. Ships at present loading are as a rule taking wheat only for stiffening or ballast, barley constituting the main part of the cargo.

California Milling.....	1 55 @ 1 62 1/4
Cal. No. 1 shipping, alongside.....	1 47 1/4 @ 1 50
Oregon Club.....	1 45 @ 1 50
Washington Blue Stem.....	@
Washington Club.....	@
Off qualities wheat.....	@

### PRICES OF FUTURES.

December, 1903, delivery, \$1.46 1/2 @ 1.48 1/2.  
May, 1904, delivery, \$— @ —.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.46 1/2 @ 1.47 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	65 1/4 @ 65 1/2	68 1/2 @ 68 3/4
Freight rates.....	25 @ 26 1/4	15 1/4 @ 16 1/4
Local market.....	\$1 12 1/4 @ 1 15	\$1 47 1/4 @ 1 50

The above prices for wheat are for No. 1 shipping, and the freight rate is per ton of 2240 pounds in first-class iron ships to Cork, U. K., for orders.

### FLOUR.

This market has not been showing much activity, but has been rather firm, there being little pressure to realize and buyers finding it difficult to operate at less than full current figures. Offerings are largely the product of mills outside the State, and while this is not unusual, it is likely to prove a more pronounced feature of the market this season than ordinarily.

Superfine, lower grades.....	\$2 50 @ 2 75
Superfine, good to choice.....	2 85 @ 3 10
Country grades, extras.....	4 00 @ 4 30
Choice and extra choice.....	4 20 @ 4 45
Fancy brands, jobbing.....	4 45 @ 4 70
Oregon, Bakers' extra.....	3 40 @ 4 00
Washington, Bakers' extra.....	3 40 @ 4 15

### BARLEY.

As for some time past, much of the barley arriving represents prior arrival purchases, particularly of the shipping and brewing grades, values for which are being better maintained than on ordinary feed descriptions. There is a fairly active outward movement, five times as much

barley as wheat having been cleared thus far this season, and much the same proportion is likely to be experienced in the exports for several months to come. The fleet now engaged for grain loading has a carrying capacity of about 80,000 tons, and of this amount probably not less than 75% has been engaged for barley. Clearances of this cereal thus far the current season aggregate over 20,000 tons.

Feed, No. 1 to choice.....	\$1 06 1/4 @ 1 10
Feed, fair to good.....	1 03 1/4 @ 1 06 1/4
Brewing, No. 1 to choice.....	1 17 1/4 @ 1 20
Chevalier, No. 1 to choice.....	1 35 @ 1 45
Chevalier, common to fair.....	1 10 @ 1 30

### OATS.

There are no special changes to record in quotable values, but the market is by no means favorable to buyers. Arrivals are of fairly liberal volume, including considerable quantities from Oregon and Washington, but only a small proportion of the oats being received is being offered on the present market, many holders refusing to unload at the current bids of wholesale operators.

White Oats, fancy feed.....	1 35 @
White, good to choice.....	1 27 1/2 @ 1 32 1/2
White, poor to fair.....	1 22 1/4 @ 1 25
Gray, common to choice.....	@
Milling.....	1 25 @ 1 30
Surprise, good to choice.....	@
Black Russian feed.....	1 17 1/4 @ 1 30
Black for seed.....	1 35 @ 1 45
Red, fair to choice.....	1 15 @ 1 32 1/2

### CORN.

Stocks are showing some increase, but are still of quite limited volume. Several carloads of Eastern corn arrived the past week, and more is announced as being on the way. While the market presents a little easier tone, values continue to be maintained at a comparatively high range.

Large White, good to choice.....	1 55 @ 1 57 1/2
Large Yellow.....	1 57 1/4 @ 1 62 1/4
Small Yellow.....	1 70 @ 1 80
Eastern, in bulk.....	1 40 @ 1 45

### RYE.

There is not much rye offering. To purchase freely, extreme current quotations or more would have to be paid.

Good to choice, new.....	1 20 @ 1 25
--------------------------	-------------

### BUCKWHEAT.

Market is very lightly stocked and is unfavorable to buyers.

Good to choice.....	2 00 @ 2 50
---------------------	-------------

### BEANS.

Considering the advanced date of the season, the rather light stocks now offering of most varieties, and the comparatively stiff prices being as a rule asked, there is about as much doing as could be reasonably expected. Dealers are not disposed to stock up at present to any noteworthy extent, holding off as much as possible for new crop. New beans are not expected to arrive in quotable quantity much before October, and indications are that opening prices will be close to figures now current on last season's stock.

Pea, fair to good, 100 lbs.....	3 25 @ 3 50
Small White, good to choice.....	3 15 @ 3 25
Large White.....	2 90 @ 3 05
Pinks.....	2 90 @ 3 10
Bayos, good to choice.....	3 40 @ 3 50
Reds.....	2 90 @ 3 00
Red Kidney.....	@
Limas, good to choice.....	3 40 @ 3 55
Black-eye Beans.....	2 75 @ 3 10
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Much the same conditions prevail as previously noted. There are few offerings of any description, and especially are choice Niles in limited supply. The market is in healthy shape, being firm for desirable qualities at the quotations prevailing.

Green Peas, California.....	1 60 @ 1 75
Niles Peas.....	2 25 @

### HOPS.

The market is firm, but there is not much doing locally, asking figures in this center being on a rather high plane as compared with prices quoted in the interior. The picking season in this State has commenced, and new hops are expected to put in an appearance in a few weeks in sufficient quantity to afford quotations for same. The New York Producers' Price Current reports the market as follows: "Comparatively little business has transpired on the local market during the past week. This was due mainly to the fact of very light offerings. Those who are holding hops were either asking more money for them or not offering at all. The brewing demand is still within very narrow compass, continued cold weather being unfavorable to the consumption of malt liquors. A lot of very nice Pacific sold to a dealer at 20c, and some of the choicest are held at 21c @ 21 1/2c, anything above 21c, however, would be very exceptional. There are but few yearlings and old olds left in first hands. In the interior of this State a few sales are reported at 17c @ 19c, possibly up to 20c in one or two instances. The weather of late has not been quite so favorable for the crop and some of the yards are looking poorly. It is, however, estimated that

the yield will be equal to 50,000 bales—about twice the crop of 1902. The estimates of the yield on the Pacific coast run from 155,000 to 160,000 bales; this includes California, Washington and Oregon. If these figures are reasonably near correct they would indicate a crop for the United States of about 210,000 bales. The situation in England has not changed materially, but the crop reports are somewhat conflicting. The opinion is gaining ground that the picking will not show over 400,000 cwt."

California, good to choice, 1902 crop.....	18 @ 20
--	---------

### WOOL.

Fall clip is coming forward in moderate quantity, but receipts represent in the main interior purchases, there being very little doing here and scarcely anything upon which to base local quotations. Principal operators are intentionally keeping this market lifeless, hoping by so doing to be able to buy in the interior to better advantage. Eastern markets are reported generally firm, with stocks light.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/4 @ 17 1/4
Northern, defective.....	14 @ 16

### FALL.

Mountain free.....	10 @ 13
San Joaquin Plains.....	8 @ 11
Lambs, Northern.....	13 @ 14
Lambs, Southern and San Joaquin.....	9 @ 12 1/2

### HAY.

Arrivals have continued heavy, but as throughout the season, most of the hay coming forward has been previously arranged for, leaving little on the market for which custom is being sought. Producers have in the majority of cases realized very good prices for this season's product. The quotable range of values remains about as last noted, the market being moderately firm at these figures.

Wheat, good to choice.....	11 50 @ 14 00
Wheat and Oat.....	10 50 @ 13 00
Oat, good to choice.....	10 00 @ 12 50
Barley.....	9 50 @ 12 00
Clover.....	10 00 @ 11 00
Alfalfa.....	10 00 @ 11 50
Stable Hay.....	10 00 @ 11 50
Compressed.....	11 00 @ 14 00
Straw, 1/2 bale.....	45 @ 60

### MILLSTUFFS.

Values for mill offal are being maintained at much the same high range current for months past. Moderate quantities are arriving from Oregon and Washington, but offerings from local mills are light. The market for Rolled Barley shows steadiness. Tendency on Milled Corn products is to easier figures, but even with a moderate reduction, prices will be still at a high range.

Bran, 1/2 ton.....	24 00 @ 25 00
Middlings.....	26 00 @ 28 00
Shorts, Oregon.....	24 50 @ 25 50
Barley, Rolled.....	23 00 @ 24 00
Cornmeal.....	34 00 @ 35 00
Cracked Corn.....	34 50 @ 35 50

### SEEDS.

Nothing doing in Alfalfa and very little here. Flax is in very moderate stock and is ruling steady. Mustard now on the local market is mostly of poor quality and for this sort there is practically no inquiry at present. In Bird Seed there is a light jobbing trade and no changes to record in quotable rates.

Alfalfa, Utah.....	Per cwt. @
Alfalfa, Cal., good to choice.....	@
Flax.....	2 25 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

Canary.....	Per lb. 5 @ 5 1/4
Rape.....	1 1/4 @ 2 1/4
Hemp.....	3 1/4 @ 4

### HONEY.

Extracted is in fair supply, but stocks of Comb are light, and that the market will be burdened with offerings of latter sort this season is not probable. Quotable values remain practically as last noted, but small transfers of both Comb and Extracted are being effected at an advance on these figures. The outward movement thus far this season has been light, shipments by sea since July 1st aggregating from San Francisco only 64 cases.

Extracted, White Liquid.....	5 1/4 @ 6
Extracted, Light Amber.....	5 @ 5 1/2
Extracted, Amber.....	4 1/2 @ 5
Extracted, Dark Amber.....	4 @ 4 1/2
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	@

### BEEFWAX.

Values are being well maintained at the quoted range, with no lack of inquiry and offerings light.

Good to choice, light 1/2 lb.....	27 1/4 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Market for Beef ruled steady, demand being of quite fair proportions, considering the hot weather experienced part of the week. Veal was in light receipt and market firm, although not quotably higher. Mutton met with more demand from consumers than for some weeks preceding, but supplies proved ample and prices were without quotable change.

Lamb did not make much of a display, and desirable offerings moved readily at full current figures. The Hog market was lacking in firmness, packers taking hold slowly, but there is not much prospect of an easier market.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/4 @ 7
Beef, 2nd quality.....	5 1/4 @ 6 1/4
Beef, 3rd quality.....	5 @ 5 1/4
Mutton—ewes, 8 @ 8 1/2 c; wethers.....	8 @ 9
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 6
Hogs, large hard, over 250 lbs.....	5 1/2 @ 6
Hogs, small, fat.....	5 1/2 @ 5 1/4
Veal, small, 1/2 lb.....	9 @ 10
Lamb, Spring, 1/2 lb.....	10 @ 11

### HIDES, PELTS AND TALLOW.

The reduced quotations noted last week remain in force. While market is not showing any special firmness, it looks as though values had touched bedrock for the time being.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	@ 10	@ 9
Medium Steers, 48 to 56 lbs.....	@ 9	@ 8
Light Steers, under 48 lbs.....	8 @	7 @
Heavy Cow Hides, over 50 lbs.....	8 @	7 @
Light Cow Hides, under 50 lbs.....	8 @	7 @
Stags.....	@ 8	@ 5
Wet Salted Kip.....	@ 9	@ 8
Wet Salted Veal.....	@ 9 1/2	@ 8 1/2
Wet Salted Calf.....	@ 10 1/4	@ 9 1/4
Dry Hides.....	@ 16	@ 15
Dry Kip and Veal, 11 to 16 lbs.....	@ 13 1/2	@ 12 1/2
Dry Calf, under 4 lbs.....	@ 19	@ 17
Pelts, long wool, 1/2 skin.....	1 00 @	1 50 @
Pelts, medium, 1/2 skin.....	70 @	90 @
Pelts, short wool, 1/2 skin.....	40 @	65 @
Pelts, shearling, 1/2 skin.....	15 @	30 @
Horse Hides, salted, large prime, each.....	2 75	
Horse Hides, salted, medium.....	2 50	
Horse Hides, salted, small.....	2 00	
Horse Hides, dry, large.....	1 75	
Horse Hides, dry, medium.....	1 50	
Horse Hides, dry, small.....	1 25	
Tallow, good quality.....	4 1/4 @	
Tallow, poorer grades.....	3 1/4 @ 4	

### BAGS AND BAGGING.

The Grain Bag market is quiet, but fairly steady at current values, principal holders preferring to carry into next season rather than make further cuts on existing low prices. Fruit Sacks are moving into the interior in considerable quantities and at unchanged figures. Movement on Wool Bags is light and prices remain as last quoted.

Fruit Sacks, cotton.....	6 1/4 @ 6 1/2
Fruit Sacks, lute, a.....	5 1/4 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/4
Grain Bags, Calcutta, huyer, June-July.....	@
Grain Bags, San Quentin, in lots of 2,000, 1/2 lb.....	5 55 @
Wool Sacks, 4-lb.....	33 @
Wool Sacks, 3 1/2-lb.....	30 @

### POULTRY.

A good demand was experienced for choice young stock, and while quotations were without radical change better average figures were realized than during preceding week. Common old fowls, however, were not eagerly sought after, and there were tolerably heavy offerings of this description. Receipts of California poultry showed considerable increase, but arrivals of Eastern were not particularly heavy. Market closed slow and weak.

Hens, California, 1/2 dozen.....	4 00 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	4 50 @ 5 50
Fryers.....	3 50 @ 4 00
Broilers, large.....	3 00 @ 3 50
Broilers, small to medium.....	2 25 @ 2 75
Ducks, old, 1/2 dozen.....	3 00 @ 4 00
Ducks, young, 1/2 dozen.....	3 50 @ 4 50
Geese, 1/2 pair.....	1 25 @ 1 50
Goslings, 1/2 pair.....	1 50 @ 1 75
Pigeons, old, 1/2 dozen.....	1 50 @
Pigeons, young.....	1 50 @ 1 75

### BUTTER.

Market for choice to select fresh inclined in favor of the selling interest, with arrivals of this sort at present rather light. Lower grades of fresh were not in heavy supply, neither were they in active request. Eastern butter of various grades is being offered rather freely, and is cutting considerably into the trade of the California product other than the most select. Eastern markets, however, are now showing more steadiness.

Creamery, extras, 1/2 lb.....	27 1/4 @ 28
Creamery, firsts.....	26 @ 27
Dairy, select.....	26 @ 27
Dairy, firsts.....	25 @ 26
Dairy, seconds.....	23 @ 24
Firkin, good to choice.....	@
Mixed Store.....	17 @ 19
Pickled Roll.....	@

### CHEESE.

Market is well supplied with flats, and for other than a few favorite brands of mild-flavored new is lacking in firmness. Considerable Eastern cheese has been lately landed here at about as low figures as current on domestic. Young Americas are in light supply and in a small way are selling to decided advantage.

California, fancy flat, new.....	13 1/4 @
California, good to choice.....	12 1/4 @ 13
California, "Young Americas".....	13 1/4 @ 14 1/4
Eastern.....	13 1/4 @ 15 1/4



## EGGS.

Not many choice to select fresh are now arriving and are meeting with a tolerably firm market, small sales being made to special custom at higher figures than are quotable. Most of the fresh eggs now arriving from interior points show heavy loss in candling, and for such stock the market is slow and lacking in firmness. Eastern are in fair receipt and being cheaper than domestic are receiving the call from most of the large consumers.

California, select, large, white and fresh.	28 @	27
California, select, irregular color & size.	24 @	27
California, good to choice store.	19 @	23
Eastern.	18 @	22

## VEGETABLES.

Market was well stocked with most kinds in season, and it was the exception where there was any special firmness. Tomatoes continued in rather light receipt and met with a tolerably stiff market. Green Corn of prime to choice quality also sold to very good advantage. Onions were not in very active request, and while quotations showed no radical change, concessions in favor of buyers were frequent. String and Lima Beans were in quite liberal supply, as were also Green Peppers, Summer Squash and Egg Plant.

Asparagus, box.	— @	—
Beans, Lima, box.	2 @	3 1/2
Beans, String, box.	1 1/2 @	3
Cabbage, choice garden, 100 lbs.	75 @	1 00
Corn, Green, crate.	1 25 @	1 75
Corn, Green, sack.	75 @	1 50
Cucumbers, large box.	40 @	65
Egg Plant, box.	40 @	65
Garlic, box.	2 @	3
Mushrooms, box.	— @	—
Onions, Yellow Danver, ctn.	65 @	80
Onions, new Red, sack.	— @	—
Okra, Green, small box.	40 @	60
Peas, Sweet Garden, box.	3 @	3 1/2
Peas, good to choice, sack.	— @	—
Peppers, Green Chile, box.	25 @	40
Peppers, Bell, box.	30 @	50
Rhubarb, box.	— @	—
Summer Squash, large box.	25 @	40
Tomatoes, large box.	1 00 @	1 75

## POTATOES.

Arrivals of potatoes showed decided increase, as compared with several weeks preceding, and while the market was easier in tone, the tendency in favor of buyers was much more pronounced on common qualities than on choice to select. Shipments from Salinas valley are now coming forward in quotable quantity. Sweet Potatoes were in increased receipt, but choice were in very fair request; some exceptionally fine from Merced brought 4c per pound.

Sacramento River Burbanks.	70 @	1 25
Salinas Burbanks, central.	1 40 @	1 75
River Reds, ctn.	— @	—
Garnet Chile.	50 @	1 15
Early Rose.	90 @	1 15
Potatoes in boxes, per cental.	1 25 @	1 75
Sweets.	3 00 @	3 50

## The Fruit Market.

## FRESH FRUITS.

The demand from retailers and consumers was quite active most of the week, and shipping demand was of fair average proportions. The market for good to choice fruit was in the main firm, but in quotable values there were no pronounced changes, increased receipts fully offsetting the improved inquiry. Canners were running mainly on contract fruit, and were not eager purchasers in the open market of anything except choice Bartlett Pears, but this description was in active request from the canning trade, and for select of extra large size as high as \$40 per ton was bid. No. 2 Bartletts were plentiful and were not quotable over \$15 per ton. Apples offering did not include much high-grade stock, and only for this description did the market show firmness. Plums in fine condition met with a moderately firm market. Grapes inclined in favor of buyers, with receipts on the increase. Berries made a light display. Melons continued to be offered freely and at easy figures.

Apples, fancy, 4-tier box.	1 15 @	1 25
Apples, good to choice, 50-box.	75 @	1 00
Apples, common to fair, 50-box.	30 @	65
Blackberries, chest.	2 50 @	4 00
Cantaloupes, crate.	75 @	1 50
Crabapples, small box.	40 @	75
Figs, Black, 2 layer, box.	1 00 @	1 50
Figs, Black, 1 layer, box.	— @	—
Figs, White, box.	— @	—
Gooseberries, common, box.	— @	—
Gooseberries, English, box.	— @	—
Grapes, Fontainebleau, crate.	35 @	50
Grapes, Seedless Sultana, crate.	40 @	75
Grapes, Sweetwater, crate.	50 @	1 00
Grapes, Tokay, crate.	50 @	90
Loganberries, chest.	— @	—
Nectarines, box.	— @	—
Nutmeg Melons, box.	40 @	65
Peaches, box.	40 @	75
Pears, Bartlett, box.	70 @	1 25
Pears, other varieties, box.	40 @	75
Pears, No. 1 Bartlett, ton.	35 @	40 00
Pears, No. 2 Bartlett, ton.	10 @	15 00
Plums, good to choice, box.	40 @	75
Plums, Large Green, ton.	15 @	25 00
Raspberries, chest.	6 @	8 00
Strawberries, Longworth, chest.	— @	—
Strawberries, Melinda, chest.	3 @	5 00
Watermelons, 100.	5 @	8 00
Whortleberries, box.	6 @	8

## DRIED FRUITS.

There is not much doing in this center in cured or evaporated fruits, but the in-

activity is mainly in consequence of limited offerings and the asking of higher figures than the majority of wholesale operators are disposed to pay. Of last year's dried fruit there is little now on the market aside from Peaches, which are still in quite fair supply, stocks remaining unplaced being estimated at 125 to 140 carloads. There are some Apples and Prunes still in stock, but no heavy quantities, and supplies are showing steady reduction. The steamer San Jose, clearing on 15th inst., carried 114,500 lbs. dried fruit for Germany, including 55,000 lbs. Prunes. New Prunes are being very firmly held, as high as 3 1/2c being asked for the four sizes of Santa Claras, but asking rates are too far beyond the present views of buyers to admit of any trading. The Apricot market continues strong, and a large portion of this year's output of dried product, estimated at about 70 per cent., has already been bought up. Stocks in the hands of growers would be now lighter but for the fact that remaining supplies are held for higher prices than have been yet established this season. For new Peaches 4 1/2 @ 5c is reported being paid in the sweat boxes, and some large transfers are said to have been already effected in the San Joaquin Valley at the figures named.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4½ @	5
Apples, extra choice to fancy. 50-lb box.	5 @	5½
Apricots, Moorpark.	8 @	11
Apricots, Royal, good to choice, ½ lb.	7 @	8
Apricots, Royal, fancy.	8½ @	9
Figs, 10-lb. box, 1-lb cartons.	— @	—
Nectarines, ½ lb.	— @	—
Peaches, unpeeled, fair to good.	3¾ @	4½
Peaches, unpeeled, choice.	4½ @	5
Peaches, unpeeled, fancy.	5½ @	6
Peaches, unpeeled, extra fancy.	7¾ @	7½
Pears, halves, fancy.	8 @	9
Pears, halves, choice.	5½ @	6
Pears, halves, fair to good.	4½ @	5
Plums, Black, pitted.	4½ @	5
Plums, Red and Yellow.	5 @	5½
Prunes, Silver, good to fancy.	4 @	6½
Prunes, in bags, 4 sizes, 2¼ @ 2¼; 40-50s, 5¼ @ 5¼; 50-60s, 4¼ @ 4¼; 60-70s, 3 @ 3¼; 70-80s, 2½ @ 2½; 80-90s, 2 @ 2¼; 90-100s, 1½ @ 1¾; small, 1 @ 1¼.		



## CAN YOU AFFORD IT?

You certainly cannot afford to have horses lame from Spavin, Ring Bone, Splint, Curb, when they may be cured by simply using

### Kendall's Spavin Cure.

It cures all these and all other forms of lameness. Think about it and then act. Price \$1.60 for \$5. As a liniment for family use it has no equal. All druggists. Book "A Treatise on the Horse" mailed free. Address DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.



## FRUIT MARKETING.

### The French Walnut Crop.

Report of the U. S. Consul, C. P. H. NASON, Grenoble, France, on the walnut crop, July 25th, 1903, furnished for publication in the PACIFIC RURAL PRESS by the State Horticultural Commission.

Pursuant to instructions that reports be made during the maturing season of the walnut crop of this region, I beg to submit the following on the nature and prospects of the crop at the present date:

This year's crop of walnuts in the valley of the Isere (France) promised to be an exceedingly good one—large in quantity and rich in quality. The trees are fresh and healthy in appearance and bountifully laden with fruit. The young nuts, now about the size of ripe plums, are well formed and in a very normal state. It is, however, much too early in the season to attempt an estimate of the probable yield, because of the variable weather conditions which may obtain before the ultimate harvest. Over heat or cold or a superabundance of rain during midsummer may affect the crop, while a severe hailstorm may in a few hours damage it most seriously. Thus far, the season has been favorable, and experts state that if normal weather conditions prevail until harvesting time the crop will be a third larger than that of last year, and of excellent quality.

In justice to growers of nuts hereabouts and to the buyers and consumers in the United States, I deem it proper to draw attention to the unsatisfactory conditions existing in the matter of early foreign shipments of walnuts, as brought to my notice by a delegation of walnut growers.

They state that at the beginning of a nut season the fruit is for the most part shipped prematurely, that is, before it has been properly dried and put in condition to bear the sea voyage, and that as a consequence it reached destination in too many instances, greatly deteriorated in quality. It is thus that the American buyers who handle the nuts and those who consume them are dissatisfied, while at the same time the quality and "good name" of the Grenoble walnuts (so called) are discredited.

They say that it is impossible to ship dry nuts which shall arrive in good condition before the 10th or 15th of November; but as buyers clamor for earlier shipments—by the end of October or the first of November—the nuts are sent as they are, that is, imperfectly dried and quite unfit for transportation. Nuts that have been hastily and artificially dried and which, when put in sacks, appear sound and good, especially after a process of sulphuration, are not so in reality. Closely packed, they take en route to "sweating." The moisture in the interior, which cannot be thoroughly eliminated by artificial drying, comes to the surface and causes the exterior of the nuts to become moldy, and the kernels to acquire a strong and musty flavor, thus prejudicing their value for table use.

All this could be avoided, growers say, if buyers in America would be a little more patient and wait the necessary time for the drying to be properly done—in which case all parties concerned would reap more benefit and have little ground for dissatisfaction. As it is, every one is eager to be first in receiving consignments, with the results herein described. In years when the crop is precocious it is possible to make shipments about but not earlier

than the first of November. As the crop this year it is expected will be some ten days later in maturing, shipments to be made with safety should not begin before the 10th of November.

### Hungary's Prune Trade in 1903.

By FRANK DYER CHESTER, U. S. Consul, Budapest, Hungary, July 1st, 1903.

The Hungarian Commercial Attache in Paris has just informed his Government that although France imports prunes even in years of good crops, the import does not pay well, except in times of weak crops, on account of the French duty on prunes of \$1.93 per 220.46 pounds.

From French statistics one would suppose that France imports mostly from Austria-Hungary, but the truth is that Budapest commission houses offer Servian and Bosnian (not Hungarian) prunes to French importers in August and September for October and November delivery. Last year they offered a poorer quality thinking that on account of the weak 1902 crops in France, high priced better grades would not sell as well as in former years. As a consequence, France turned and purchased the "Fancy Santa Clara" prunes from California. The attache advises Hungarian fruit exporters to ship to France only first-class Hungarian prunes of our quality, easily recognizable, and likely to be found suitable; further, to give French buyers some advantage both in making and receiving the price of goods, e. g., collect on delivery, and not against documents.

### A Carload of Fruit.

The term, "a carload of fruit," is heard so often that little importance is attached to it until one stops to consider what it means in pounds. The minimum weight of fruit sent East in a car is twelve tons, or 24,000 pounds. Occasionally, but not often, thirteen tons or 26,000 pounds is forwarded in a car. Pears are shipped in 50-pound boxes, which means that it takes 480 50-pound boxes of pears to load a car. Peaches are shipped in 21½-pound boxes, and it takes 1117 of them to load a car. Plums and prunes are placed in 26-pound boxes, and 923 of them go into a car of 24,000 pounds. When 85 carloads of fruit leave Sacramento in a day, it means that 1020 tons of fruit, or 2,040,000 pounds started for Eastern markets.

### Santa Clara Prune Situation.

A San Jose prune grower writes of the prune situation in the Mercury as follows: In view of the world's shortage of prunes the Oregon crop is a mere bagatelle. Even the Oregonian, while conceding a large crop in the Northwest, says that Oregon cannot hope to compete with California in the markets of Europe or even in the East, for the reason that her prunes are not sufficiently known. The fact is that Santa Clara valley grows the finest prunes in the world and "Santa Claras" have the preference everywhere, at home and abroad. And this year particularly, owing to the general scarcity, this valley holds the call on the markets of the world. Growers as a rule recognize this fact and are firm in their prices. One grower packer has sold a number of cases of prunes at 3½ cents basis (bag basis here) to the domestic trade. A big exporting house has sold many cars in Europe at 3½ cents basis (bag basis here). Yet a buyer who has been industriously trying to buy prunes at 2½ cents basis complains that the growers won't sell. Of course not! Why should they at that price? If the old law of supply and demand still ruled, the growers ought to receive more than a 3½ cents basis this year, but they are still a little diffident as a result of their experience of the past three years and do not yet assert their full rights.

Hundreds of cars have been sold, the prices to be fixed in the future and a prominent packer has conceded that the price will depend on the growers. The bending limbs in some orchards are deceptive. The prunes are on the ends

of the limbs and when the fruit is cured, present estimates are likely to be revised.

As to big sizes, we do not yet know what the shrinkage will be. There have been seasons of big fruit and light weight. Where scale is prevalent, as it is in some orchards, and the leaves are covered with dark exudations, a heavy shrinkage may be expected.

A big exporter recently said that we expect an abundance of large sizes, but we won't know until the fruit is dried, and it is not safe to sell on presumption.

One of the most prominent and best informed growers says he would not sell green prunes for less \$35 a ton and that seems to be the prevailing sentiment.

"PAGE FENCE AGE," a lively successor to the "Coiled Spring Hustler," published by the Page Woven Wire Fence Co., Adrian, Mich., is devoted exclusively to the manifest merits of their make, and is filled with facts.

## Removal Notice

### —OF— The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS  
**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## SHARPLES TUBULAR FARM SEPARATORS

### Right Now

we are ready to show you wherein the Tubular is better than other separators and why thousands of dairymen buy them in preference to other separators. We don't ask you to buy as a favor to us or for any other reason than that

## THE TUBULAR

is a different machine from the others and one that is sold on the strength of what it is "Right Now." Send for catalog 131.

The Sharples Co. Chicago, Ill. P. M. Sharples, West Chester, Pa.

## JUNIOR MONARCH HAY PRESSES.



Standard and ¾ Bale Sizes.

Manufactured and for Sale by

L. C. MOREHOUSE.

WM. H. GRAY, Agent, San Leandro, Cal.

## HEALD'S

BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

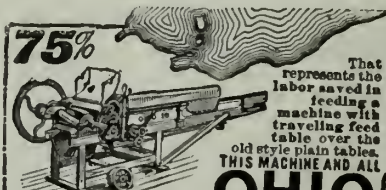
The Leading Commercial School

West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.



FEED AND ENSILAGE CUTTERS are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts.

HOOKER & CO. 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

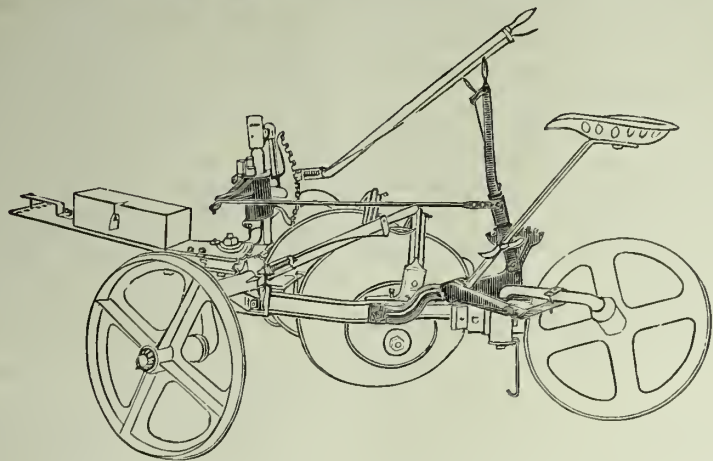
PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 16 FRESNO, CAL.



# TWO-DISC Benicia-Hancock Plow.



Don't be misled into buying any Disc Plow until you try the BENICIA-HANCOCK in your own field—AT OUR RISK. Other plows may still be improving, but the BENICIA, with its patented features, is away in the lead AND WILL STAY THERE.

Write for circular and our liberal offer to all bona fide intending purchasers of a Disc Plow.

## BAKER & HAMILTON,

Sacramento, San Francisco, Los Angeles, Cal.

# California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.  
By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

# CALIFORNIA VEGETABLES

IN  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

U S U S U S

## Uncle Sam Knows a Good Thing

When he sees it, which is the reason he takes so much pride in the

### U. S. CREAM SEPARATOR

The U. S. has many points of superiority, but the following three are sufficient to make it

The most desirable to own:

- Clean Skimming.**—Holds the World's Record.
- Safety.**—All gears entirely enclosed in iron case.
- Durability.**—Most thoroughly and substantially made.

*For further information, write for illustrated catalogues.*

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

**Vermont Farm Machine Co., Bellows Falls, Vt.**

U S U S U S

[ELATERITE IS MINERAL RUBBER.]

## YOU MAY INTEND BUILDING

or find it necessary to REPLACE A WORN-OUT ROOF.

# ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

**THE ELATERITE ROOFING CO.,**  
713 Market Street, San Francisco.

## "EMPIRE KING"

### SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. **Specially Adapted to Distillate Emulsion.** We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO., Lockport, N. Y.**

**California Spray Pump Co., Sole Agts. for California.**  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

### BELLE CITY Thresher

Full Line of Sweep and Tread Powers.

A small and compact thresher of great capacity. Strongly built. Can be run by light power. Requires but a few men to operate it. Guaranteed.

A Time and Money Saver.

### Feed and Ensilage Cutter.

Ensilage cutters have self-feeder and blower attachments. Write for book about ensilage, illustrated catalogue and price list—free.

**BELLE CITY MFG. CO.,**  
Box 114, Racine, Wis.

## C. H. EVANS & CO.,

### Machine

Thomson & Evans Steam Pumps.

DEEP WELL and POWER PUMPS.

### Works.

MARINE ENGINES.

SHIP and STEAMBOAT WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St.  
SAN FRANCISCO.

## FRANCIS SMITH & CO.,

—MANUFACTURERS OF—

# SHEET IRON & STEEL PIPE

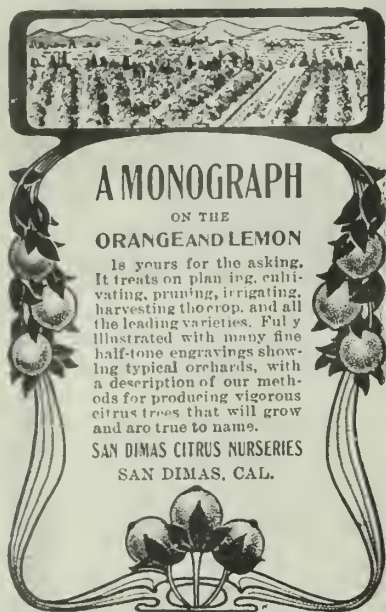
FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

83 FREMONT STREET, - - - SAN FRANCISCO, CAL.

Iron out, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.





**A MONOGRAPH**  
ON THE  
**ORANGE AND LEMON**

Is yours for the asking. It treats on planing, cultivating, pruning, irrigating, harvesting, the crop, and all the leading varieties. Full of illustrations with many fine half-tone engravings showing typical orchards, with a description of our methods for producing vigorous citrus trees that will grow and are true to name.

SAN DIMAS CITRUS NURSERIES  
SAN DIMAS, CAL.



**WIRE** FENCE GOODS  
DIPPING BASKETS

**West Coast Wire & Iron Works,**  
19 Fremont Street,  
San Francisco, Cal.

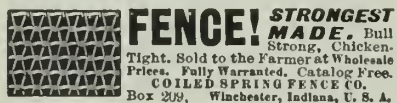
**ALMOND HULLING and SEPARATING MACHINERY.**

Send for Catalogue

**WALTER G. READ & CO.,**  
(New Shops.) DAVISVILLE, CAL.



**If Our Agent**  
don't call on you soon, send for agent's terms.  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



**FENCE! STRONGEST MADE.** Bull Strong, Chicken Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO. Box 209, Winchester, Indiana, U. S. A.

## Hundreds Are Sending for Our New Catalogue of Fruit Handling Machinery.

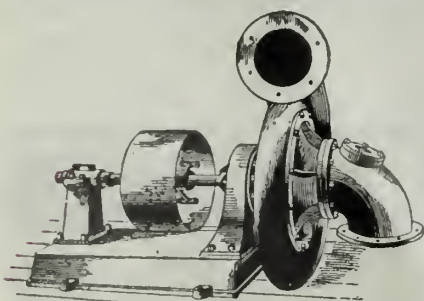
Why don't you. It won't cost anything.

It is the largest and most complete catalogue we ever issued. It contains over 80 illustrations and descriptions of fruit handling machines and parts that we make.

If there is anything you want in this line let us hear from you, for we make everything from a common cauldron to the planning, building and equipping of complete drying plants and warehouses.

Our field is the whole Pacific Coast.

**ANDERSON-BARNGROVER MFG. CO.,**  
128 WEST SANTA CLARA STREET, SAN JOSE, CAL.



## PEERLESS Centrifugal Pumps

—AND—  
**Gasoline Engines**  
FOR ALL PURPOSES.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

**Baker & Hamilton,**  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

## THE VETERINARIAN.

### Answers to Inquiries.

By E. J. CREELEY, D. V. S., Dean of S. F. Veterinary College, 510 Golden Gate avenue.

#### MALIGNANT SARCOMA.

TO THE EDITOR:—Will you kindly give me an opinion in the following case: We have a cow on whose upper jaw there is a large swelling. It has been noticed for three or four months, and was at first believed to be the result of a contusion or injury of some kind. It is as firm as cartilage, probably 10 or 12 inches in circumference, and shows no external break of the skin. It is not at all sensitive to the touch, and the cow—a very gentle one—pays no more attention to its being handled than she does to being touched on the horn or elsewhere. She is probably ten years old. Unless her being quite thin is a result of this growth, she shows no effects of it.

What is the probable complaint? Is there a cure for it? Is it advisable not to use her milk?—READER.

This is no doubt a case of osteo sarcoma, belongs to the malignant cancerous group, and it is dangerous to use either the milk or meat. It is incurable.

#### Contagious Abortion in Cows.

##### NUMBER II.—CONCLUDED.

PREVENTION AND TREATMENT.—Admitting the frequency of acquired insusceptibility, we have to guard more against repetition of abortion in the same cows. To protect the new stock against infection, however, it becomes necessary to purge from the infection all cows which still harbor the germ in their generative passages, though they do not themselves any longer abort. It also becomes necessary to guard against infection through stalls, bulls, etc., from such infected, but no longer aborting, cows.

Upon the following there can be no dispute:

First—The cow which shows symptoms of abortion should be at once removed from the others, and her stall, including the gutter and drain leading from it, thoroughly disinfected.

Second—Every cow which has aborted should be instantly removed

from the stable into a separate building, and her stall, with its gutter and drains, thoroughly disinfected.

Third—The aborted foetus, with its membranes, should be at once removed and burned or boiled, or deeply buried after it has been sprinkled with chloride of lime or other active disinfectant.

Fourth—The manure from the infected stable should be taken into an inclosure to which no cows have access, and freely watered with a solution of sulphate of copper (one ounce in one quart of rain water).

Fifth—The cow which has aborted, and those standing on each side of her, should have the external generative organs, the adjacent parts of the thigh and the whole length of the tail sponged every morning with the solution of one ounce of sulphate of copper in one quart of water.

Sixth—The cow that has aborted or is suspected of abortion, and which has been isolated from the herd in a special stable, should have her stall carefully cleaned, scraped and watered daily with the sulphate of copper solution. Her manure and urine must be carefully disinfected, as provided above.

Seventh—In case that more than one animal has aborted in a herd or stable, it is desirable to sponge the external generative organs, hips and tail of the whole herd daily with the sulphate of copper solution, and to disinfect the hind parts of the stalls, the gutter and the drains every morning, as prescribed above.

Eighth—Further to prevent the introduction of the infection into a herd, all newly purchased cows should be put at first in a separate quarantine stable, and be subjected to daily infection of the external parts, and the stalls. As each cow comes in at full time, and without any further indication of disease, she may be transferred to the stable occupied by the general herd.

Ninth—In purchasing a bull the greatest care must be taken to see that he comes from an absolutely sound herd, and that he had not been allowed to serve cows from a herd where abortion exists. It is a safe precaution to wash his sheath with the disinfectant liquid and to inject it freely with the same before beginning to use him in the herd. He should be allowed to serve no cows from outside the herd, unless it can be shown that they are from herds that are absolutely free from abortion.

By a rigid application of the above measures the extension of contagious abortion in a herd can be certainly prevented, and, the rule being that the majority do not abort the second time, the disease can in this way be got rid of.

It must be borne in mind, however, that in an infected herd there will always be a certain number of pregnant animals, in which the germ is always lodged deeply in the vagina and even in the womb, and these measures can not prevent the occurrence of abortion in their cases. There is also the danger in a certain limited number of those which have a tendency to abort the second time that the germ will continue to live throughout the following year in the interior of the womb; and not only cause another abortion in the individual cow, but start the infection anew in other members of the herd.

There is some danger of such survival even in a cow which has become herself immune, so that she will carry her calf to full time and yet infect other susceptible cows which may be exposed more or less directly to her discharges. It is for such cases that medication by the month and injections into the vagina or womb have been resorted to.

Tenth—Among medicines used to check abortion by acting on the general system are viburnum prunifolium and potassium chlorate, which can hardly be upheld as disinfectants, but act only on the nervous system or on the general health. Carbolic acid, one of the latest fads, is employed, on the other hand, with the intent of checking the propagation of the contagious element. Diluted in water so as to be non-irritating, it has been injected daily under the skin for a length of time and with alleged good results. It is noticeable, however, that when the

good effects have been apparently most constant the animals have at the same time been subjected to very careful and continuous external disinfection, which in itself is amply sufficient to account for the favorable applications, the results have been much less favorable. Thirty-seven Danish veterinarians employed it in ninety-two separate herds, with results that were apparently good in forty-seven cases, doubtful in twenty, and negative in twenty-five. Thirteen other veterinarians who have employed it extensively report the results as doubtful or negative. It is not surprising that a majority of these practitioners abandoned a method which in theory must be looked on as unpromising and which proved so uncertain in actual practice.

Eleventh—The other resort is a priori more promising, consisting, as it does, in the application of a disinfectant to the infected mucous membrane of the generative organs. The two agents most in use are carbolic acid and mercuric chloride.

Carbolic acid, which is the less dangerous agent, is prepared by adding one troy ounce and a half of the acid to a gallon of water, together with a troy ounce of carbonate of soda. This is injected daily for a week, through a large syringe, or an elastic rubber tube introduced into the passage and having a funnel inserted in its outer end, which is carried 2 feet higher than the root of the tail. A quart may be employed at each injection and it should be used milk warm.

The mercuric chloride, the more poisonous of the two agents, is used in a solution of one drachm to the gallon of water, to which is added a drachm of hydrochloric acid. This is used milk warm in the same way as the carbolic acid solution. This is very corrosive as well as poisonous, and must be kept in a wooden vessel, safely locked up from man and animals.

The writer has used such injections in aborting animals and herds, and at the same time with the daily disinfection of the external parts of the generative organs, the stalls, gutters, drains and manure, and with perfect success where it could be thoroughly carried out.

It is subject to the serious objection that it causes active straining when the injection is administered, and if this becomes extreme it may create apprehension that it will precipitate abortion rather than obviate it. This has led Nocard and others to abandon the injections and to rely altogether on external disinfectants. For pregnant animals this is to be commended, as the disinfectant can not penetrate and disinfect an already infected womb, and is, therefore, not likely to prevent an abortion when the germ has already gained that cavity. In the cow that has just aborted, on the other hand, the danger of injury from this cause is reduced to the minimum, and the disinfectant injection, thrown into the depth of the womb itself, offers the only hope of a speedy disinfection of that cavity. The external application merely prevents the access of new germs from without, while those that are within are left to be destroyed by the unaided action of the lining membrane of the womb. That this action is usually slow is illustrated by the fact that abortion germs habitually live for a length of time in the vagina and womb, before producing abortion, and that they often continue to live there much longer unless preventive measures are resorted to. In the animal which has aborted some time before, and which is still unimpregnated, injections are equally commendable. It may not be admissible in this case to introduce the liquid into the womb, but even if limited to the vagina the resulting disinfection is highly advantageous in cutting off this source of renewed infection for the uterus, and placing the organ in a much more favorable position for the destruction of the bacilli which it contains.

CONCLUSION.—In conclusion, it may be stated that this subject still offers an extensive field for profitable investigation, and that we should not rest satisfied with the partial knowledge already attained, but push our inquiries in new



directions when there is a good prospect of securing the means of a fuller, more perfect and more easily available control of this great source of loss to our dairy interests. The form or forms of contagious abortion in our home herds should be fully investigated and the conditions of the life and propagation of the germs more definitely determined, and the same should be secured for other forms which may not as yet be indigenous to the United States, but which are likely to be introduced through the medium of importations. Our dairy industry is one of the most important of our sources of income, and a moderate outlay for an investigation which will render that safer and more remunerative, or which will protect it against threatened dangers from without, must prove an important measure of natural economy.

### That First National Work.

It is telegraphed from Washington that the Secretary of the Interior has approved the award of the contract for the construction of an irrigating canal to connect the Truckee and Carson rivers in Nevada to Charles A. Warren & Co. of San Francisco and the E. B. & A. L. Stone Co. of Oakland, Cal., at an aggregate cost of \$942,437.

This is the first definite action taken by the department looking to actual construction under the Reclamation Act. The proposed canal will be 30 miles in length. Its main purpose is to carry the waters of the Truckee river to a reservoir to be constructed in the valley of Carson river. Incidentally, however, about 8000 acres of land under the canal will be irrigated by it.

Ultimately the project is expected to reclaim about 300,000 acres of arid lands in western Nevada and eastern California, including the old Forty-mile desert.

### Holstein-Friesian Year Book.

We have received from the editor, Mr. F. L. Houghton of Putney, Vt., a copy of the "Holstein Year Book," a neat publication of 320 pages, giving all record cows and their sires with the records of the former, and a standard list of sires and prize winners from 1894 to 1902, portraits, etc. It is a handbook of much value to all in the Holstein interest.

ALL sorts of stings—whether from wasps, bees, hornets or bumblebees—should be sucked, to remove as much poison as possible; then have a slice of acid fruit, apple, tomato or peach, or a crushed berry, or grape, either ripe or green, bound lightly to the wound. If the pain is very severe after a minute take off the fruit, wash the sting in warm water, and bathe it well in alcohol. Then wet a folded linen rag in either alcohol or vinegar, and bind on the sting. If neither alcohol, vinegar nor fruit of any sort is at hand, try a bruised plantain leaf. Change the application, whatever it is, every ten minutes until the pain subsides.

**Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST**

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

**MIDLAND FEED.** THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES, Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Feeding Perfected," which describes our new Poultry Crumbling Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

**HOLSTEIN CATTLE.**

SLEEPY HOLLOW RANCH, SAN ANSELMO, MARIN CO., CAL.

ALL THE LEADING FAMILIES OF THE BREED.

Every Sire directly imported from Herds of the Greatest Eastern Breeders.

Large Number of Officially Tested Cows. Bull Calves from Great Producing Dams. Correspondence and personal inspection invited. R. M. HOTALING, 431 Jackson St., San Francisco.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING AUGUST 4, 1903.

- 735,439.—BOTTLE—N. D. Asdell, Lakeview, Or.  
735,462.—KILN—W. A. Butler, S. F.  
735,507.—GAGE SQUARE—J. Campbell, Cascade, Or.  
735,223.—RAIL JOINT—W. S. Dunagan, Everett, Wash.  
735,234.—QUARTZ MILL—J. F. Forward, San Diego, Cal.  
735,081.—CHECKBOOK—J. Franc, Pasadena, Cal.  
735,497.—RANGE FINDER—G. Griffith, S. F.  
735,248.—PUMP PISTON—J. Hahn, Los Angeles, Cal.  
735,501.—EXTRACTING GOLD—Harp & Starkweather, Stockton, Cal.  
735,374.—STAMP MILL MORTAR—J. H. Hendy, S. F.  
735,512.—TREATMENT OF ORES—H. Hirsching, S. F.  
735,257.—SCRAPER—J. R. Hodgins, Tacoma, Wash.  
735,516.—HANDLE—J. M. Horton, Crescent City, Cal.  
735,518.—MECHANICAL MOVEMENT—J. H. Hussey, Spokane, Wash.  
735,588.—SWINGING SCRAPER—D. B. James, S. F.  
735,106.—SECTION PIPE—J. Jorgensen, Seattle, Wash.  
735,288.—ADZ—O. Keehne, B'sbee, Ariz.  
735,531.—ELECTRIC SWITCH—O. M. Lacey, Hanford, Cal.  
735,545.—FLOATING FISH TRAP—L. Mahew, Whatcom, Wash.  
735,564.—CONVEYER—W. L. McCabe, Seattle, Wash.  
735,280.—SPICE BOX TOP—E. B. Millar, Los Angeles, Cal.  
735,576.—RAILWAY SWITCH—J. M. Payne, Spokane, Wash.  
735,578.—CANDLESTICK—Peterson & Fielding, Grants Pass, Or.  
735,146.—THRESHER—T. Powell, Newhope, Cal.  
735,590.—STAMP MILL—G. C. Richards, Berkeley, Cal.  
735,600.—COUCH FRAME—A. Shrock, S. F.  
735,595.—LOCATING SHIPWRECK—R. Sato, S. F.  
735,601.—FISH NET LIFTER—A. F. Shadel, Lopez, Wash.  
735,606.—SEWING MACHINE—D. M. Smyth, Pasadena, Cal.  
735,321.—WATER HEATER—F. Walker, Los Angeles, Cal.  
735,182.—ELECTRIC HEATER—D. M. Watson, Portland, Or.  
735,323.—DIVING APPARATUS—J. L. Watson, Los Angeles, Cal.  
735,628.—MOTOR BICYCLE—O. E. Waxed, Oakland, Cal.  
735,636.—BRAKE BLOCK—O. Whitmore, San Diego, Cal.  
735,638.—PACKAGING LIQUIDS—G. G. Wickson, S. F.  
735,642.—BOTTLE—P. J. Wilson, Ben Lomond, Cal.

Co OPERATIVE fruit handling and selling efforts are constantly advancing in spite of the difficulty of getting people to act together. The new movement at San Jose to affiliate closely all the local associations of the Santa Clara valley is progressing favorably. The affair will not be rushed, for it is not expected to take definite action until all associations come in. Col. Philo Hersey, the old war horse of co-operation in the Santa Clara valley, is now in Europe, and probably nothing final will be undertaken until his return.

THE twenty-fourth annual meeting of the National Farmers' Congress at Niagara Falls begins September 22. For twenty-four years this national body has co-operated with the other organizations of the United States in the betterment of agriculture. John M. Stahl, 4328 Langley avenue, Chicago, Ill., is secretary; J. H. Reynolds of Adrian, Mich., is treasurer.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.  
Open All Year. : A. VAN DER HAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1884. Send for Circular.

CHAS. D. PIERCE, Pres.



## RIVERSIDE HERD HOLSTEINS.

DE KOL OF VALLEY MEAD.

7 day A. R. O. record  
19 lbs. 9 oz. butter.

PARTIES WANTING FIRST CLASS YOUNG BULLS will do well to write us. Prices reasonable, breeding and quality considered. Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days. 80 per ct. fat
Romeo Aaggie Acme.....	431	7 yr.	26.11 oz.
Fidessa.....	570	4 "	25. "
Matty Clay's Aaggie 2d.....	499	7 "	23.15 "
Netherland Maud Moore.....	511	5 "	23.11 "
Minnewawa Louise.....	510	4 "	22.9 "
Nicole De Kol.....	6 "	22.4 "	
De Natsey Baker.....	484	3 "	21.10 "
Ruda 2d Belle.....	401	7 "	20.9 "
De Kol Konigen Van Freisland.....	440	8 "	20.9 "
Minnewawa Lily.....	364	4 "	20.4 "
Drosky Artis.....	460	6 "	20.4 "
Griselda of Brookfield.....	512	6 "	20.3 "
De Kol of Valley Mead.....	435	4 "	19.9 "
Wynetta Princess.....	391	2 "	18.7 "
Drusa.....	399	5 "	18.4 "
Wakalona.....	393	5 "	18.3 "
Olympia Clay.....	526	6 "	18.2 "
Victor Idlewild 2nd.....	371	4 "	17.9 "
Cascade Princess.....	479	8 "	17.2 "
Western Duchess.....	387	7 "	16.6 "
Aaggie Martin.....	416	6 "	16.12 "
Roma Princess.....	366	3 "	16.8 "

W. FRANK PIERCE, Vice-Pres



ROMEO AAGGIE ACME.  
7 day A. R. O. record  
26 lbs. 11 oz. butter.

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days. 80 per ct. fat
Corona Clifden.....	410	6 yr.	16.3 oz.
Minnewawa Salambo, 3 teats.....	403	4 "	16.1 "
Mountain Juliet.....	382	7 "	15.14 "
Minnewawa Duchess, 3 teats.....	338	4 "	15.6 "
Lady Kurts Alpa.....	378	6 "	15.2 "
Pauline Sadie De Kol.....	367	3 "	15.2 "
Eva Blanco.....	355	2 "	14.5 "
Corona Acturas.....	344	2 "	14.1 "
Korndy, ke Pietertje Queen.....	300	2 "	13.14 "
Aral a De Kol.....	332	2 "	13.7 "
Oleander De Kol.....	324	2 "	13.1 "
Rijaneta Clothilde 2d.....	312	2 "	13.2 "
Segris Pietertje De Kol 2d.....	355	2 "	12.11 "
Western Princess.....	294	3 "	12.11 "
Painted Lady.....	327	3 "	12.10 "
Mary Ann De Kol.....	391	3 "	12.10 "
Miranda Acturas.....	325	3 "	12.3 "
Rhoda De Kol Colantha.....	353	2 "	12.6 "
Hengerveld Lass.....	306	2 "	12.2 "
Princess Louise De Kol.....	299	2 "	12. "
Wild West De Kol.....	279	2 "	10.10 "

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

## PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103 STOCKTON, CAL. 'Phone, SUBURBAN 281.

## Breeders' Directory.

### HORSES AND CATTLE.

HOLSTEINS—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1896. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 80 Montgomery St., S. F.

JERSEYS, HOLSTEINS & DURHAMS. Bred specially for use in Dairy. Thoroughbred Hogs, Poultry, William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

THOMAS WAITE, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

BULLS AND COWS FOR SALE—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

A. J. C. O. JERSEYS. Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

JERSEYS—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

BERKSHIRE AND POLAND-CHINA PIGS, both sexes. C. A. Stowe, Stockton.

THOROUGHbred POLAND-CHINA FOR SALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

BERKSHIRE, POLAND-CHINA & DUROC HOGS. Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

FOR SALE—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

SANTA TERESA POULTRY FARM, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

BRONZE TURKEYS. Ed. Hart, Clements, Cal.

### SHEEP.

R. H. CRANE, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

### BREEDERS' SUPPLIES.

GEO. H. CROLEY, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... POULTRY SUPPLIES of every description. Send for catalogue—FREE.

OAKLAND POULTRY YARDS, Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

FOR SALE—Thirty good Jersey dairy cows, giving good, rich milk.

Address JERSEY STOCK FARM, Nord, Butte Co., Cal.

## ENTERPRISE STOCK FARM.

The home of such Shorthorns as Inwood Chief, the prize winning two-year-old of the State, also open class of 1902 and sweepstakes; and Hopeful 57, champion heifer and cow, won first as two-year-old of State and open classes, the winner of sweepstakes cow of any age, also grand sweepstakes of her herd. Young stock, registered and graded, for sale. H. P. EAKLE JR., Woodland, Yolo Co., Cal.

### FOR SALE.

## Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

## The Thoroughbred BERKSHIRE BOAR, Highelore Oxford 63442.

Sired by Highelore Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young sows and boars of breeding age from this fine boar and out of choice sows for sale by

CHAS. C. PERKINS, Sacramento, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWOHILLA STOCK FARM. Address... ISAAC BIRD, Merced, Cal.



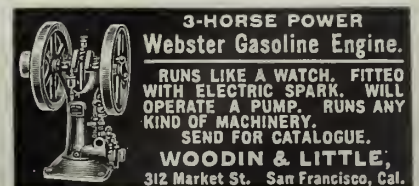
There are DOGS and DOGS.

If you want the BEST get

Thoroughbred Scotch Collies

TOKAYANO KENNELS

Colfax, Placer Co., Calif.



3-HORSE POWER Webster Gasoline Engine.

RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY. SEND FOR CATALOGUE. WOODIN & LITTLE, 312 Market St. San Francisco, Cal.



# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be *removed* instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

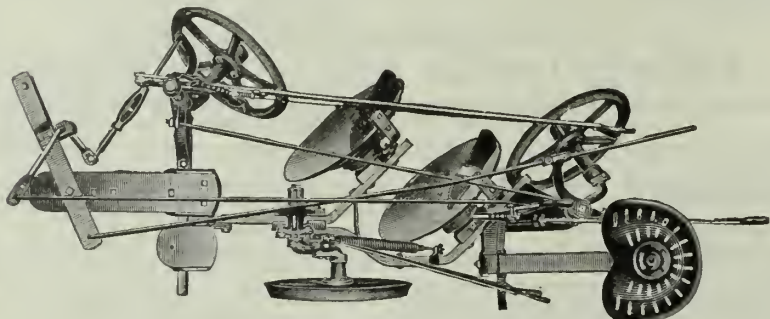
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the *o. chard* type will run *closer* to the trees than any other?

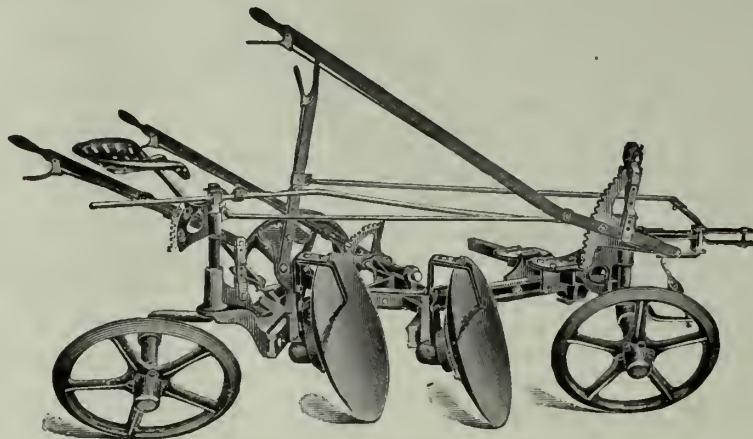
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



ORCHARD PATTERN DISC PLOW (Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE DISC PLOW (Field Style).

We are in position to supply 3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.

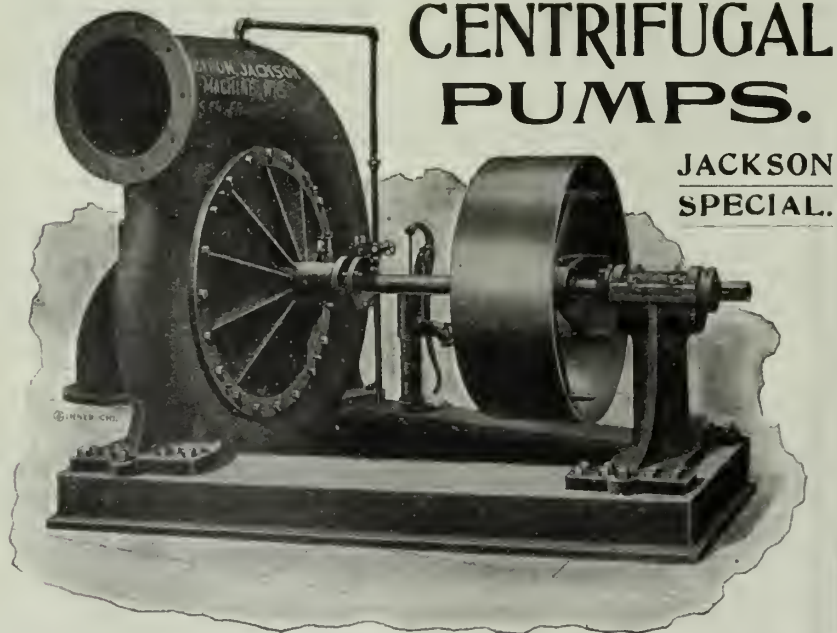


"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



### CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO.  
Write for Catalogue E.

## STATE FAIR OF 1903

AUGUST 31st to SEPTEMBER 12th,  
AT SACRAMENTO, CALIFORNIA.

50th Annual Exposition  
CALIFORNIA'S  
—GREAT—

Agricultural, Horticultural and Live Stock Exposition.  
EVERY DAY A GREAT DAY!

PROF. W. L. CARLYLE of the Bureau of Animal Industry of Wisconsin, and PROF. E. W. MAJOR of the Bureau of Animal Industry of the University of California, will judge all classes of Live Stock and deliver Instructive Lectures on Live Stock Husbandry.

PROF. H. E. ALVORD, Washington, D. C., Chief of the United States Bureau of Dairy Industry, will be present at the Dairy and Creamery Operators' Convention and address same.

**CATTLE—BEEF AND DAIRY BREEDS.**  
Grand Animals—See Them and Try to Breed Some Like Them.

**DRAFT HORSES, SWINE AND SHEEP.**  
The Pick of the World—Come and See the Highest Types of Farm Animals.

**Two Weeks of Running and Harness Racing!**  
GREATLY INCREASED PREMIUMS.

**POULTRY SHOW**—Standard and Fancy Breeds.  
**INDUSTRIAL PAVILION DISPLAY**—An Exposition in Itself.

EXHIBITS CARRIED FREE. EXCURSION RATES TO VISITORS.

For Particulars and Premium List, apply to

H. LOWDEN, Acting Secretary, Sacramento, Cal. B. F. RUSH, President.

## HERBICIDE

KILLS

WEEDS AND POISON OAK.

Keeps Gutters and Roadways  
Clean.

Don't be skeptical, but write for facts and particulars to the Pacific Coast Agents,

ECCLES & SMITH, 91 FREMONT STREET,  
SAN FRANCISCO, CAL.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## ELECTRIC Worm Eradicator

KILLS

SLUGS, BUGS AND GRUBS

OF ALL KINDS  
On All Varieties of Plants and Trees.

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**

Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.

DEWBY, STRONG & CO., Patent Solicitors, 330 Market St. San Francisco, Cal.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 9.

SAN FRANCISCO, SATURDAY, AUGUST 29, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Fumigation Practice in Southern California.

One of the most important and interesting pieces of work which Prof. C. W. Woodworth of the University of California and his assistants have recently accomplished relates to the fumigation of citrus trees for the killing of scale insects as practiced in southern California. There were such wide differences in results attained that Prof. Woodworth decided to have the whole subject studied experimentally in order to determine what variations existed in the methods of different fumigators and the methods of the same fumigators at different times. An assistant—Mr. J. S. Hunter—visited the points shown in the accompanying map of southern California and spent nearly two months visiting nearly every fumigating outfit, measuring the tented trees and recording the doses of hydrocyanic gas used for each of them. He measured and recorded the doses for 2314 trees, which represented the judgments of thirty fumigators. It was shown by a study of the data thus secured that the judgment of all the fumigators was thoroughly untrustworthy as to the size of the tree they had covered in their tent and the amount of chemicals required for each of them. Prof. Woodworth concludes that it is probably a physical impossibility to accurately guess at the capacity of a tent when in place over a certain tree. In view of these facts, he considers it a remarkable thing that the results obtained in fumigation in the killing of scale insects have been uniform enough to be fairly satisfactory. They show that the process of fumigation allows a very wide margin between efficiency against the insect and danger to the plant. A reformation in the method of estimating the dose could not fail either to greatly diminish the cost of the chemicals used, or to improve markedly the certainty and uniformity of the results.

The method used by Mr. Hunter in making the measurements of the tents was quite simple and consisted in the use of a fishing rod and a piece of electric drop-light insulated cord, which gives greater flexibility and is less liable to kink than a simple wire. The line was marked off into one-meter lengths by knots. The metric system was used because of convenience in calculation. The rod employed was the ordinary jointed fishing rod, which could be disconnected for transportation and adjusted to different heights of trees. The sections of the rod were marked off into centimeters for use in connection with the line in making the measurements.

The procedure in making the measure of a tent is

as follows: Having first attached the line at about its middle to the end of the rod, one end of the former is made fast to the tent. The most convenient way to accomplish this was found to be by means of a hook, like a fish hook from which the barb had been removed. The most convenient place of attachment was at a point one meter from the ground.

After attaching one end of the line to the tent the rest of that half is caused to lie up to and over the center and top of the tent by means of the rod. The one making the measurement then walks around to the opposite side of the tent, rod in hand, holding the line constantly in position over the top. The other end of the line is carried around the tent at the same time and is then drawn taut, measuring the last fraction of a meter by means of the graduation on the lower joint of the rod. Adding now one meter, the distance the first end is from the ground, we have the measurement of the distance over the top of the tent from the ground on one side to the ground on the other.

A second measurement was then taken by throwing the line off the top of the tent by means of the rod and holding it so that as the measurer proceeds

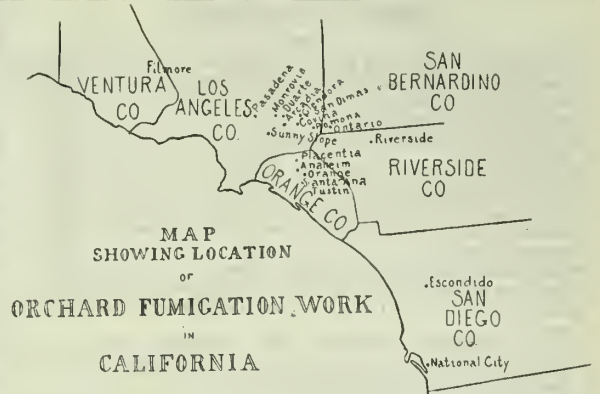


Method of Measuring Tents Employed in Securing Data Discussed in Bulletin.

around the tent to the point where the line is attached, it will encircle the tent at a point about one meter from the ground. The end of the rod is again brought into requisition and the last fraction of meter read in centimeters. Both measurements are thus made by one person in a single trip around the tent.

After the measurements are taken there remains the necessity of calculation to show the dosage, and to do this by mathematics is out of the question. Prof. Woodworth has prepared a diagram, and a series of curves could be made which would give the dose at once instead of the volume. He says, however, it is very desirable to avoid, if possible, the need of the use of tables and measuring apparatus. Very decided progress in this direction has been made by W. H. Payne of Monrovia, who has invented a tent marked off with concentric rings giving the distance over the top of the tent in terms of the dose required. This scheme should work well if proper arrangements are provided for coordinating the second measurement—that around the tent.

A scheme devised by Prof.

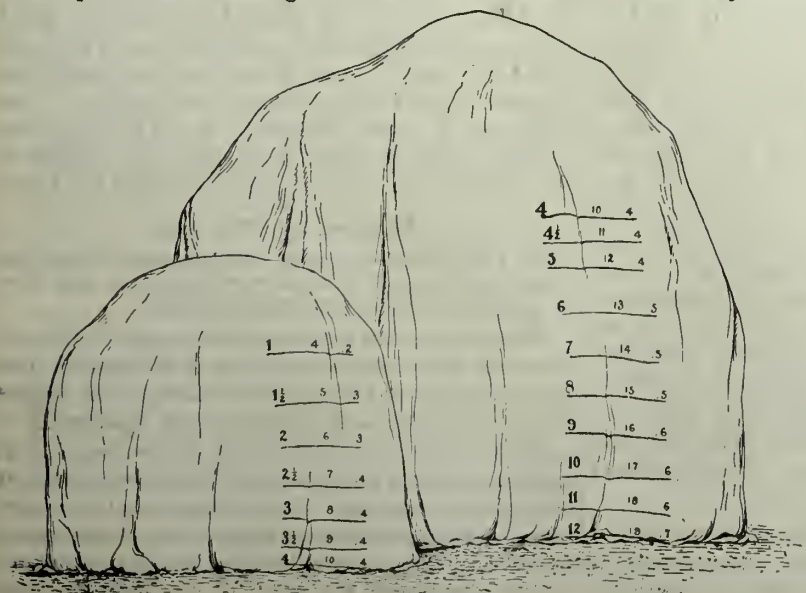


Woodworth several years ago in Florida for use in fumigating against the white fly seems to solve the problem quite satisfactorily. It consists in making a series of parallel lines near two opposite edges of the tent, which are so distanced from the center point that they shall correspond with the dosage of a tree of the average shape. Upon these lines will be placed numerals indicating the dose, the circumference in yards (paces), and the difference (that is, the amount the dose must be varied), should the distance around be more or less than the amount indicated for an average tent. This plan would permit the estimation of the dosage with sufficient rapidity and a fair degree of accuracy. If the tent is not put on the tree so that its center is directly over the center of the tree, the same dosage line may not touch the ground on the two sides, but the average of the two will give approximately the correct measurement. A lateral displacement will give no trouble if the rule is followed when more than one line touches the ground on one side, of using the one indicating the highest dosage. Prof. Woodworth then gives a table which will serve as a guide in marking the tents. The full publication is given in Bulletin 152 of the University Experiment Station, which all interested should study.

The following conclusions were reached: A striking difference in the practice of fumigators of the different counties was noticed, corresponding somewhat with the history of fumigation practice in their regions. No fumigator was found who could make accurate estimates of the volume of a tent, showing that uniform results require that actual measurements be made. All fumigators agree in giving large trees a relatively heavier dose than a small tree receives per unit of volume.

The rate of leakage, which has not heretofore been taken into consideration in planning schemes of fumigation dosage, was shown to be very large, and gives some reasons for the larger dosage of small trees. Under any circumstances the dose to be used should consist of the quantity of chemicals necessary to produce the desired density of the gas and enough more to allow for the leakage that will take place. The first item increases as the volume of the tent increases; the second, as the area of the canvas increases. In the case of two tents, one having half the volume of the other, the dose of the smaller one should be one-half, or 50%, of that of the larger, if we considered only the first item. Since the area of canvas does not decrease so rapidly, we would want a higher ratio to meet the requirements of the second item. This ratio is 70%. The true ratio would seem, therefore, to be somewhere between 50% and 70%, unless some other factor that we do not now suspect also enters into the calculation. This is considerably lower than the average of the actual practice.

Moisture was shown to have a great influence on the gas content, but how it might affect dosage remains yet to be determined.



Fumigation Tents Marked to Indicate Dosage.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, August 29, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Map Showing Location of Orchard Fumigation Work in California; Method of Measuring Tents Employed in Securing Data Discussed in Bulletin; Fumigation Tents Marked to Indicate Dosage, 129.

EDITORIAL.—Fumigation Practice in Southern California, 129. The Week, 130.

QUERIES AND REPLIES.—Gum Disease of Citrus Trees; The Piemelon; Hay Ashes as a Fertilizer; Blemishes from Pear Scab, 130. Eastern Cherry Troubles; Summer Legumes in Orange Orchard; Gum Disease at the Crown; Walnut Troubles in Napa County, 131.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending August 24, 1903; Temperature and Rainfall, 131.

AGRICULTURAL SCIENCE.—Farmers' Institutes in California, 132.

HORTICULTURE.—The Walnut Blight; California Plants for the St. Louis World's Fair; Split Peach Pit Investigation, 132. Handling Peaches on the Kimble Ranch, 133.

THE DAIRY.—The Dairy Cow, 133.

THE APIARY.—Some Bee Keeping Statistics, 133. Inyo County Society's Honey Sale, 134.

THE VETERINARIAN.—Contagious Sore-Eyes in Cattle, 134.

THE BOTANIST.—The Mosquito Plant Not Effective, 134.

THE STOCK YARD.—What the Scrub Is and How He Is Produced, 134.

AGRICULTURAL REVIEW.—135.

THE HOME CIRCLE.—Our Babies; A Matchmaker; Humorous, 136. Concerning Files; Aphorisms; Hints to Housekeepers; Domestic Hints, 137.

THE MARKETS.—Produce Market; Fruit Markets, 138.

ENTOMOLOGICAL.—Fumigation or Distillate Spray, 140.

PATRONS OF HUSBANDRY.—The State Grange, 142.

THE VINEYARD.—The Wine Growers' Meeting, 142.

MISCELLANEOUS.—Moravian or Hanna Barley; New Patents, 143.

## The Week.

The season is advancing rapidly. Next week the State Fair will open in Sacramento, and that is always counted a harbinger of autumn. As we go to press the report comes that every sort of activity is discernible at the capital and that the fair will be notable. Let all who can visit Sacramento next week and see the thing through.

From day to day the figures of this year's fresh fruit shipments are see-sawing with those of corresponding dates last year. Now this year's total leads as it did on Saturday last by 4071 against 4058, but on Tuesday last the totals were 4208 against 4245—giving last year the lead. The contest is as close as the yacht race in point of numbers, but different in that our side is always more or less ahead. We shall have to wait and see what the grapes and apples can do to give this year its proper place in ascending scale of totals. However, it is comforting to remember that there is much more money in this year's business anyway.

Wheat has been quiet for spot. Shippers have been bearing hard because wheat is relatively higher here than abroad, but there is so little wheat offering that bearing amounts to but little. Futures have fluctuated but again run to the higher figures as we go to press. Freights run at about 16s 6d for barley and 15s 6d for wheat. Four ships have cleared; one straight barley and three mixed, and yet so much barley that the week's clearances have been 12,190 tons, worth \$290,000, against 1460 tons of wheat, worth \$42,260. It looks as though barley growing was to be our game; prices are strong and buyers are hunting the grain in the country. Oats are in good shape. The Government is buying at \$1.41½ double-sacked. Corn is in good shape at old prices and rye is quiet but not lower. New beans are in from the Sacramento river, old beans are being cleaned up at some concessions, but the visible supply is not large. Millfeeds are quiet and though prices for bran and middlings are not lower forced sales would not reach them. Hay arrives after purchase, as usual, and is firm for the high grades at a little higher figure; at the same time low grades go for less. Beef has a wider range, but prime is holding up well. Lamb and mutton are slightly lower. Large and medium hogs are firm,

while small hogs are not wanted by packers and are too numerous for the block trade. Strictly choice butter is firm and retains price, but there is a lot of Eastern being worked as fresh, and cold storage slips out at all chances. Cheese is firm for mild new, but common old flats are abundant. Fine fresh eggs are higher. Poultry is in better shape, the accumulation cleaned up and receipts less. Potatoes have dropped, owing to too much poor stock, but are improving now. Onions are slow and lower. Tree fruits are less active. Canners are working on contract fruit. There is a mass of poor apples and pears in sight. Watermelons are doing better. Dried fruits are strong. Honey is firm and in fair demand. Hops are high; old are gone and new are quoted way up. Wool buying is still in the country. A steamer shipment of 111,400 pounds has gone out for New York.

There is apparently much weight in the protest against the St. Helena proposition to tax pure wine for the sake of taxing the imitation wine higher. In another column we have a report of the St. Helena meeting and at its close mention of a counter proposition from Stockton led by the old wine-interest promotor, Mr. C. A. Wetmore. If the whole business of making wine is brought under the revenue law there may have to be a revenue officer sitting on the press-screw of every little winery in the State, and every one who undertakes to mash up a few grapes in a washtub for home wine making will have to entertain an inspector. The result would probably be a lot of moonshine wine, with many dangers attached, the closing of small cellars because of the bother of the restrictions, and the advance of the large concerns because they can afford to pay all the costs and take all the bother. In return for such favors they will, of course, want to buy grapes at low prices, and the growing interest comes under the thumbs of the combinations. May be they will get there anyway, but this method of landing is too shockingly rough.

We do not know just how much it matters that the San Bernardino County Fruit Exchange has withdrawn from the general southern California organization, but the recusants themselves think it is momentous, for a dispatch from San Bernardino says: "This action was taken by the directors after the question had been referred to the separate exchanges for ratification, and it means the first substantial defection from the co-operative plan of marketing fruit which has been in vogue in southern California for a dozen years." This county organization marketed 660 carloads of oranges last year and expects to double it this year, and will sell outside of existing arrangements unless it gets into better humor later on. It is claimed that is disgusted by the arbitrary methods of the general exchange in merging with buyers to force in independent growers and now because the dog wagged its tail the tail proposes to wag the dog. These things are all too deep for us. We can only think again and again that, as men are constituted as they are, willful and contrary-like, the only way to succeed is to affiliate rather than combine—to have republican rather than imperial control.

We hope all will read the statement upon another page about the Farmers' Institute work of the University of California. It is brief and yet it gives the essential facts about this popular means of promoting educational efforts in rural neighborhoods. The State has directly provided for the work, and it is desired to extend its benefits and advantages as widely as possible. No doubt there are farming sections to which our journal attains which are not included in the institute circuits. It is now the time to enter, if a few people who will make the local arrangements and draw out the people will assume to do this. There is no cost whatever, except that required to meet local expenses in providing a meeting place and local printing of notices. The Institute department of the University desires to co-operate with all societies or enterprising individuals who wish to promote all good rural interests. The offer should not go unheeded.

Mr. Gifford Pinchot, chief of the forestry division of the United States Department of Agriculture, is in California arranging for co-operation between his

division and the State of California as proposed by the last Legislature. This will include a general investigation and study of forestry conditions; mapping out the forest regions; investigation of the proposed new forestry reserves in the northern part of the State; study of replanting of forests and inquiry into chaparral growths in the southern part of the State as a means toward improving water sources. There are now seventeen members of the Department of Forestry in California, and they will be here some time, going generally over the forest districts.

## QUERIES AND REPLIES.

### Gum Disease of Citrus Trees.

TO THE EDITOR:—We are troubled here in places by a gum disease which attacks the orange and lemon trees. You are no doubt familiar with this disease. What do you consider to be the cause? Is the trouble due to a bacterial growth of some sort, or is it due to improper or excessive fertilization? What is the best remedy for the trouble? Is there a better remedy than cutting away the diseased part and treating with carbolic acid?—GROWER, Santa Ana.

The nature of the trouble known as gum disease is not fully understood, except where this trouble occurs just at the base of the tree and in such instances can often be traced to the direct contact of water in irrigation, or to the contact of saturated soil with the bark at this point. If this is the place where the trouble occurs in your case, there is nothing better than removing the diseased bark, treating the wound with carbolic acid or Bordeaux mixture and then keeping the water from reaching the tree in the future. There is a gum disease higher up in the tree which is apparently not due to this cause, and for which no specific cause and no rational treatment have yet been demonstrated. Prof. Newton B. Pierce of your town knows as much about this "disease" as any man living, probably.

### The Piemelon.

TO THE EDITOR:—Seeing that your paper circulates extensively among fruit growers, also farmers, I would like to ask if a vegetable or fruit of the melon family, known as piemelon, is grown in California?—G. W. T., Haywards.

We fear that our paper circulates in the vicinity of our correspondent at such a rapid rate that he cannot look long into its contents. We have had frequent references to the piemelon, showing that it is largely grown, chiefly in the interior valley and in southern California, for stock feeding, and that it serves a good purpose where a succulent summer food is in great request. It is grown in about the same way that watermelons and field squashes are, and owing to our mild climate can be fed from the field far into the winter if desired.

### Hay Ashes as a Fertilizer.

TO THE EDITOR:—Will ashes made from wheat hay be good for fertilization on orange land? I have a chance to get ten loads, and would like to ask whether it be worth my while?—P. T., Plano.

Whether they would be worth hauling or not, would depend first upon the manner in which the hay was burnt. If burnt in a stack or warehouse, as one might suppose most likely, they would be of little value because the high heat has probably vitrified the ash and rendered its ingredients largely insoluble. Even if burnt slowly the ashes are so light and plant food distributed through so much bulk that it probably would not pay to haul it very far, for it would be cheaper to buy a more concentrated fertilizer. The only way to settle the matter would be to have an analysis made to show the amount and condition of the contents of a certain weight or bulk of the ashes.

### Blemishes from Pear Scab.

TO THE EDITOR:—Please tell me what causes the discolored spots on the pears which I send and how to prevent it.—READER, San Francisco.

The blemishes on the pears are caused by the occurrence of the pear scab earlier in the season. This scab is caused by a fungus which attacks the leaves, the young twigs and the fruit while it is small. If conditions favor its continuance there result ugly, scabby blemishes and cracking which utterly destroys the value of the fruit. If conditions are very favorable to the development of the fruit, the fungus seems to be checked in its early stages, but as the fruit enlarges afterwards the mark of the early infection



spreads and interferes somewhat with the growth of the cuticle at that point; the result is a dark-colored blemish covered with small fragments of the skin affected with the fungus, such as your pears show. The proper treatment is to spray the trees before blooming with winter strength of Bordeaux mixture or with the lime, sulphur and salt remedy, the same as is used for the San Jose scale; or to use the summer strength of Bordeaux mixture after the fruit has set. Fortunately the winter treatment usually checks the disease, unless the local conditions are very favorable for its extension.

#### Eastern Cherry Troubles.

TO THE EDITOR:—The fact that California is a great producer of plums and cherries has led me to write you to ask if anything has been published on the subject of growing plums and cherries. I am living on a fruit farm where plums and cherries are grown extensively, and we are constantly fighting against a number of diseases and insect pests about most of which, I believe, we have not the best information. Practically all our plum trees are affected with a sun scald on the northwest side of the body, and the trees are all more or less crippled from this cause. If there is any stock that could be used with safety from this trouble, I should be very happy to know. There are other enemies that baffle us much at the present time, such as the "cherry fruit fly."—GROWER, Geneva, N. Y.

California cultural methods with plums and cherries are fully covered in our "California Fruits and How to Grow Them." Judging from California experience, we should say that the failure of your trees through the sun scald is due to the fact that you grow them with too high trunks and do not protect the trunk from sun burn. Our fruit trees are grown with low heads, so that the foliage will shade the trunk, and until that is reached we protect the bark by whitewashing or by wrapping with burlaps and shading with "shakes," or with so-called "protectors" made from rushes, which are sold for that purpose in considerable quantities. So far as we know, it is not possible to find any stock which is not subject to sun burn. Fortunately, the cherry fly and the curculio are not known in this State, consequently we have no significant experience in that line to mention to you.

#### Summer Legumes in Orange Orchard.

TO THE EDITOR:—I am thinking of sowing cowpeas in my orange grove at Thermalito, Butte Co., in the month of August, but uncertainty as to whether the weather there will permit the vine to grow sufficiently to make fertilizer makes me hesitate and write for advice. Will you kindly tell me if the cowpea is adapted to that section, and your opinion of it as a fertilizer? I will get double the crop of last season this fall.—ORANGE GROWER, San Francisco.

There is no question about the adaptation of cowpeas for green manuring, providing you can get a good growth of the peas and turn them under at the time when their presence will not interfere with the growth of the trees. The cowpeas are very rich in nitrogen and constitute just the material which is probably the most needed for giving new vigor to your pear trees. The question would be as to how the peas will grow in that district in August, and that we do not know. Cowpeas make very satisfactory summer growth on river bottom lands, which are light and moist, but just how they will succeed in the dry heat of the mesas, even if you do give them abundance of water, we do not know. This you would have to determine by a small experiment, upon the basis of which you could do more or less hereafter as you seemed to be warranted. There is another question, however, involved, and that is whether such rank growth of cowpeas as is desirable might interfere with the moisture supply of the trees just at the time when they are finishing up the early ripening crop of oranges, for which your district is famous. Any intercrop which would rob the trees at this time would, of course, endanger the satisfactory size and quality in your oranges. For this reason, again, an experiment on a small scale would be desirable. It is a fact, however, that where irrigation water is abundant it is quite possible that the summer growth of legumes as a soil cover, as well as a source of nitrogen, may be desirable, and fruit growers in your district are thinking and experimenting along that line. It is a subject which we shall know more about after a few of these experimental propositions are worked out.

#### Gum Disease at the Crown.

TO THE EDITOR:—A gum appears at the base of the lemon tree, sometimes extending into the roots, the bark rotting away. The disease sometimes girdles the tree. It does not appear to me to be regular gum disease, as it rarely extends more than 6 to 12 inches from the ground, and has seldom appeared except in low or poorly drained ground, and especially where the wash has filled in the earth around the trees. I have in some instances been able to check it by scraping off the rotten bark and painting the affected part in the early stages. Can you suggest a remedy, and do you consider it contagious or merely a local disease?—GROWER, Santa Barbara.

It is a clear conclusion from very wide observation among growers of citrus fruit trees that when the water is permitted to stand for a time around the root crown the form of gum disease which you describe is very likely to appear. The same thing occurs when the wet ground is allowed to rise upon the bark which should be exposed to the air. This gum disease can be prevented by keeping standing water or saturated soil away from immediate contact with the base of the tree. The treatment where injury has occurred consists in scraping away the rotten bark and painting the affected part as you have done. Checking of the disease is promoted by the application of dilute solution of crude carbolic acid when the decayed portions have been removed. The application of the Bordeaux mixture has also resulted favorably. The wounds should then be allowed to dry thoroughly before the application of the paint. If gum disease has not succeeded in girdling the tree, its revival after this treatment is generally attained. Prevention of the occurrence of the disease can be secured by taking extra precautions not to allow the water to approach the base of the tree.

#### Walnut Troubles in Napa County.

TO THE EDITOR:—I send you by mail some samples of leaves from my walnut trees. I have some forty trees mostly bordering the avenue, where the cultivation is rather poorly done. However, the tree that I send you samples stands near the house and has been fairly well cultivated this year. The tree is some ten years old or more and is producing fair yield of hard-shell walnuts. One bottle contains leaves with a pale-green grub with a black head; a fresh leaf and fibers of leaves after the grub has gone over them. I have found only this one colony on the tree and there are but few signs of their work.

The other sample bottle has leaves from the same tree. A large percentage of leaves are affected by this curl or blotch. On one leaf I found a web with a black spider enclosed. There is a leaf in the bottle with a web undisturbed and it may reach you perfect. While there are many leaves with the blotches or curls on them, the two are the only ones that I have discovered with the web on them. Can you give me the cause and remedy for these troubles?

I have two other trees bearing that have no cultivation and a portion of the leaves or stems of leaves are dry and crisp, while others are green and fresh. I conclude lack of cultivation and moisture is the cause.

What time of year should dead limb tips be cut off? I have a few trees that show dead tops of limbs and know they should be cut back.—P. EVERTS, Rutherford.

The caterpillar which is working upon the leaves of your walnut tree is a Datana, or, as it is commonly called, the Yellow-necked Caterpillar. These caterpillars do not usually occur in sufficient numbers to do any great amount of injury, and the tree can be protected from them by spraying them with Paris green, one pound to 200 gallons of water, just as is done in spraying for the codlin moth. The caterpillar while young eats off the surface of the leaf and leaves the fibers as you noticed. When it becomes larger it will eat holes and destroy the whole leaf substance.

On the other leaves which you sent, the blotches or swellings seem to result from mechanical injury to the leaf upon its under surface. The black spider, which you say is enclosed in a leaf, has escaped, but what seems to be a web is rather the silk spun by a caterpillar which has undergone its transformation at that point and escaped. The spider was only visiting in that region and is not to be credited with the injury.

With reference to the dying back of the leaf stems and ends of branches on some of the trees, you are right in attributing this to the lack of cultivation and moisture. The dead parts can be cut away at any time; in fact, it is better to cut them back during

the growing season, because you can then see which parts are vigorous and which are weak. Cut back into the vigorous part and the healing will be satisfactory, and if the trees are better supplied with moisture by cultivation or irrigation, as may be needed, the trouble will not reappear.

## WEATHER AND CROPS.

### Report of the U. S. Weather Service for Week Ending August 24, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

#### SACRAMENTO VALLEY.

The temperature was nearly normal during the week and conditions were favorable for all crops and farm work. Grain thrashing continues and large shipments of grain and hay are being made. Hop picking progressed rapidly and will be completed in some sections within a week; the yield is much better than expected and the quality excellent. Dry feed is plentiful and stock are in good condition. Grapes are maturing satisfactorily and picking is in progress; the yield and quality are reported better than last season's. Late strawberries are plentiful. Peach drying and almond hulling are progressing. Pears in Yolo county are of good quality and the yield is large. Prunes are doing well. Citrus fruits are thrifty.

#### COAST AND BAY SECTIONS.

The weather was somewhat warmer than during the preceding week and favorable for all crops. Light rain fell on the northwest coast. Grain harvest is completed except in a few places and thrashing is progressing rapidly; wheat and barley are of good quality, and in some sections the yield is reported nearly average. Hops are in excellent condition and picking will commence during the present week. In the Santa Rosa and Pleasanton districts the crop is much heavier than expected and the hops are of excellent quality. Beans are making satisfactory progress. Grapes are maturing and picking is progressing in some places; the yield is heavy and quality excellent. Prune harvest has commenced; the crop large and of excellent quality. Pears, plums, peaches and apples are yielding heavily.

#### SAN JOAQUIN VALLEY.

Clear weather, with warm days and cool nights, prevailed during the past week. The fruit crop is maturing and ripening fast. Cutting and drying are progressing rapidly. In some sections the greater portion of the crop has been gathered, while in others the harvest is at its height. The peach crop is good in the northern portion of the valley, and light but of good quality in the central and southern portions. Prune picking has begun in most orchards, the crop being light but of excellent quality. Grapes are coloring slowly in some sections, owing to the cool weather; the crop will be large. The first carload of Tokay grapes was shipped from Lodi this week. Almond harvest has begun; the yield is very uneven, some orchards having good and others a poor crop. Summer crops all promise good yields. Stock are healthy and doing well. Pasturage is scarce.

#### SOUTHERN CALIFORNIA.

Abnormally high temperature prevailed in the southern portion most of the week, followed by high winds and light rain in some places. In the vicinity of San Bernardino, fruit and shade trees were prostrated by the wind. The extreme heat damaged growing vegetables to some extent, but there are no reports of injury to the fruit crop. Grapes ripened rapidly and will be ready for picking earlier than usual. Deciduous fruits are abundant and of good quality. Oranges are in excellent condition and a large crop is expected. Walnuts are dropping and will be a short crop. Sugar beets and beans are doing well. Grain thrashing and hay baling are progressing; heavy crops have been harvested. Irrigating water is plentiful and is being used liberally.

EUREKA SUMMARY.—Harvesting and thrashing continue; reports indicate average crop. In the central and southern portions of the county barley is exceptionally good, potatoes light, apples immense; in the northern and interior portions crops are generally less than average.

LOS ANGELES SUMMARY.—The very warm weather during the past week injured beans to some extent; particularly the late sown. The extent of damage cannot yet be estimated. Grapes and cantaloupes were also burnt in some places.

#### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, August 26, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.26	.55	.25	.23	64	52
Red Bluff.....	.00	.00	T	.06	86	56
Sacramento.....	.00	.00	T	.01	88	52
San Francisco.....	.00	T	T	.03	70	50
Fresno.....	.00	.00	T	.02	100	58
Independence.....	.00	.00	.30	.10	80	60
San Luis Obispo.....	.00	.00	T	.05	100	50
Los Angeles.....	T	T	T	.04	84	58
San Diego.....	T	T	.02	.10	80	64
Yuma.....	T	.04	.11	.43	110	76



## AGRICULTURAL SCIENCE.

### Farmers' Institutes in California.

By E. J. WICKSON in the Annual Report of the University of California Experiment Station for 1902-1903.

Farmers' Institute work in California has been carried on since 1892 by the University of California by appropriation from its general fund, has now been taken up by the State and direct appropriation made for its maintenance of \$6000 per year for the next two years. This enactment is plainly due to the popular approval which institute work has secured from the agriculturists themselves and from other public-spirited citizens who appreciate the importance, in State progress and development, of bringing the results of scientific investigation and improved practice directly to the attention of the people in stated assemblies convenient of access to them. In the discussion in the Legislature and in the comments by the press and by those prominent in industrial and educational circles, the phase of the University extension known as Farmers' Institutes was highly praised for directness and efficiency; and the measure providing for its improvement and extension passed the Senate and Assembly without opposition and received the enthusiastic approval from the Governor of the State.

**WORK TO BE EXTENDED.**—In my previous reports reference has been made to the exceptionally large amount of Institute work undertaken by the members of the staff of the College of Agriculture of the University of California, as compared with similar efforts in other States. It was shown that though our agricultural instructors and investigators cheerfully discharge this work and appreciate its benefits to them and to the institution, it was clearly to the advantage of University investigation and instruction that less of it should be required of them. This fact has been generally recognized by our agriculturists, and on this basis they strongly urged separate provision of funds by the State and the employment of a greater number of assistants for the Institute work. There was also contemplated in this generous act by the Legislature the extension of Institute work, so that all localities desiring it could be visited by Institute speakers; also that other phases of University extension work in agriculture could be entered upon. These phases, which are proving very popular and useful in some of the foremost States eastward of the Rocky mountains, are the preparation of reading courses and correspondence courses along agricultural lines, and, if possible, the provision of circulating libraries, including books treating of rural industries and domestic economy, which should be passed under proper regulations from one local club or other farmers' organization to another throughout the State.

In connection with these agencies for stimulating and more adequately satisfying the demand for opportunities for instruction among the farming classes, it is also hoped to proceed further in the organization of more systematic extension work in rural topics by arrangement for stated visits by instructors and lecturers, with intervening study and preparation by those desiring their suggestions and assistance. All these desirable phases of University extension in agriculture are under consideration by those to whom the University intrusts this effort; and as the new appropriation by the State becomes available it is expected that substantial progress will be made with such new undertakings as may seem to be feasible and to answer an adequate popular demand.

**THE INSTITUTE.**—During the two fiscal years ending June 30, 1901-02 and 1902-03, Farmers' Institutes have proceeded with the wide voluntary participation of the agricultural instructors of the University and by apportionment from the general funds of the University, as has been described. There has been, on the whole, increased interest and more satisfactory local preparations for the meetings. The essays and addresses prepared by residents of the localities visited have been of great pertinence and value, and their wide publication in the agricultural journals of the State has been inspiring and helpful in ministering to more satisfactory practice. It is a notable fact that a large part of the most useful current agricultural literature, on the side of practice, at least, consists of the carefully prepared essays which our most successful farmers and fruit growers are contributing to the proceedings of the Institutes held in their own neighborhoods in all parts of the State.

North of the Tehachapi mountains Institute work has proceeded under disadvantage during the last fiscal year, owing to the protracted illness of Mr. D. T. Fowler, the conductor. Since October, 1902, Mr. Fowler has been unable to undertake active work, although he has shared in planning and arrangement so far as his strength allowed. Owing to his illness more work has been cheerfully undertaken by other members of the staff. The popular sympathy and solicitude manifested in Mr. Fowler's distress is a token of the esteem in which he is held by the farming interests generally.

In southern California, Institute work under the

exceedingly satisfactory promotion of Prof. A. J. Cook, Institute conductor for that part of the State, has been carried on in increased measure during the last two years and has commanded increased popular approval. The organization of local farmers' clubs has focused interest and given opportunity for continuous effort for social and industrial advancement, while the annual Farmers' Club Institute, attended by delegations from local clubs and by the agricultural public generally, has proved to be a strong influence toward the enactment of several measures of wide value to the State. It is a significant fact that all the measures which, after due investigation, were urged upon the Legislature of 1903 by resolutions adopted at the Farmers' Club Institute at Santa Ana, December, 1902, have become laws.

**STATISTICAL.**—The attendance at the Farmers' Institutes increases steadily from year to year. In southern California the number of meetings has been slightly larger than hitherto; while the number in the central and northern districts has been slightly less, owing to the serious illness of the conductor. The requirements of work at the University made it impossible for volunteers from the staff to meet all the demands during the last year. With the provision now made by the State this cause of shortage will disappear. Still it is satisfactory to report that, during the two years covered by this report, 112 different centers of rural population have been reached, and that 142 Institutes have been held—an average of 71 per year. The estimate of individuals attending, on the basis of notes taken at the meetings by the conductors, is placed at 20,000 annually.

Earnest co-operation has been undertaken with the United States Department of Agriculture in the special work in connection with Institutes in the States and Territories, provided for at the last session of Congress, and satisfactory correspondence has been carried on with Mr. John Hamilton, who is the Farmers' Institute specialist of the Department. It is hoped that he may be able to participate in some of our Institutes during the coming fiscal year.

## HORTICULTURE.

### The Walnut Blight.

This destructive disease of the English walnut has hit the southern California producers very hard this year. It is prevalent in nearly all parts of the State where walnuts are grown and should be held in mind by all growers. What it is doing in Orange county is told in the Anaheim Gazette of last week, and there is also an interesting discussion of what is thought of it:

**THE OCCURRENCE OF THE DISEASE.**—A blight of the nut crop, which has gradually grown during recent years until it menaces the future of the industry, is responsible this year for shortening crops in some orchards to 15% of the normal output. Probably throughout the nut-growing area of southern California not to exceed half a crop will be harvested. Some orchardists attribute this shortage in large part to unfavorable conditions of weather in spring, but it is probably true that the blight itself is quite responsible for the entire loss. We have had these "unfavorable conditions" of weather before; indeed, it is pointed out by one grower that a rainfall of an inch or two while trees are putting forth blossom has not in the past been destructive, but the contrary. Whether or not healthy nuts are falling from the trees is an open question; some growers declare this to be a fact, while others scout the idea. If such nuts are dropping at all, they hold, it is not because of lack of fertilization, for that would have destroyed them before attaining their present size; and if a knife be run through them it will be seen on close inspection they are tainted with blight, perhaps in not quite so marked a degree as those palpably blighted, but diseased just the same.

**FIGHT THE DISEASE.**—These facts, culminating in the startling shrinkage of the crop, should set growers about the work of ferreting out the cause of the blight, which, if it continue its spread, will in a few years wipe out the crop. The Government Pathologist stationed in this county should be placed in close touch with conditions throughout the valley. In some orchards a spraying of Bordeaux mixture has been attended with good results. This spraying should be taken up by every orchardist who cares a rap for the preservation of his property. True, the trees seem to be as yet untouched as to foliage and general healthy appearance, but who can tell how soon the blight may get in its work, at first denuding them of their beauty, and then destroying them in the end. That would be a calamity as dire as the blight which wiped out the vines fifteen years ago.

**APATHY.**—Much diverse opinion exists among growers as the genesis of the trouble, but the theory of the best informed is that it is a bacterial disease. That is what Prof. Pierce, at a meeting of the local farmers' club, said five years ago. That meeting should have been attended by every nut grower in the valley, for it had been publicly noted that the pathologist would speak upon the blight, its origin

and method of exterminating it. The meeting was slimly attended, and long ago the farmers' club was quietly laid to rest, although there is so much work, and important work, for it to do, that it would seem it must be called forth again to take its place among things animate and existing for the public good.

Let growers become better acquainted with conditions in their orchards and let scientific application be made to the end that all forms of blight may be eradicated. It seems but yesterday that nut growers were heralded to the world as having a cinch on the good things of this world. They were making money hand over fist and seemed to be on the sunny side of Easy street. Now, like a thunder clap from a clear sky, comes the report that crops are woefully shrunk, and by probably nothing other than the blight that has been lingering among the orchards for several years past. Let scientific measures be set on foot for its eradication; if experiments must be made, let them cover a wide area and be practiced by many growers, not by a few.

**SUGGESTIONS.**—According to the best information obtainable, the blight is of bacterial origin, and ideal conditions for its spread exist in wet and cloudy weather. Diseased nuts should not be permitted to lie upon the ground as a carpet, but should be carefully gathered up and burned. That the disease spreads to the fallen nuts is as certain as any scientific fact can be. They should be immediately burned, together with twigs of the tree that may show effects of the blight. Let growers get a bit acquainted with conditions in their orchards, let proper remedies be provided and sources of contagion be removed and we shall probably hear no more of crops almost wiped out by a bacterial germ which not one nut grower in a dozen would know if he met him walking between the trees in his orchard.

### California Plants for the St. Louis World's Fair.

A circular letter to the nurserymen of California has been issued by George C. Roeding of Fresno, chief of the department of horticulture of the St. Louis Exposition, setting forth what is expected from them in furnishing plants and shrubs for the display, and asking their co-operation in completing the plans. After calling attention to the magnitude of the fair and the necessity of beginning the preparations months in advance, Mr. Roeding says:

"We are not only looking for plants, but anything else which in your opinion would be desirable for exhibition purposes. I have been authorized by the commissioners to state that anything in the plant line which you furnish will be transported to St. Louis free of charge, and that the plants or trees will receive the very best of attention while there. If there is any possibility of disposing of them, if you will fix a price, we will do our very best to sell them for you, or, if it is found impossible to do this, they will be sent back without any expense to you. Furthermore, I beg to state that these plants will be properly labeled and your name, as exhibitor, will appear on each plant. If you desire them to be entered for competition, we will be pleased to give this matter our attention, and will follow out anything in that line which you may have to suggest at the proper time."

The favorable location of the California building and the opportunity to make collective exhibits by the different counties is pointed out, and the letter continues:

"The idea which the commissioners have in view is to beautify the grounds with plants, palms and shrubs typical not only of our fertile soil, but which will also, more than anything else which can be shown there, illustrate our favorable climatic conditions, making it possible for us to grow many things out of doors which can only be grown in greenhouses in the Eastern States. On account of the more favorable climatic conditions in St. Louis, as compared with Chicago, no difficulty is anticipated in keeping plants grown out of doors in good order. Much will be expected from California at the St. Louis Exposition, and it is only by having the hearty co-operation of yourself and others who have the interests of California at heart in showing her resources that we can expect so make a creditable display."

The letter closes with the request that the nurserymen of the State will communicate with Mr. Roeding as to what each will be willing to furnish for the exhibit.

### Split Peach Pit Investigation.

Prof. A. V. Stubenrauch, assistant horticulturist of the University of California Experiment Station, is engaged in investigating the occurrence and possible causes of the splitting of peach pits in California. Definite information regarding the occurrence of the trouble is needed in order to determine, if possible, the exact conditions which bring it about. Whether it is due to some organism, fungous or bacterial, or whether it is due simply to adverse climatic or soil conditions, has not yet been determined. It is, therefore, hoped, by means of inquiry by circular, to reach all peach growers in the State so far as practicable, and it is urgently desired that they will



give all information in their possession by filling out as fully as possible blanks which will be sent to them on application. All readers of the PACIFIC RURAL PRESS who are willing to give the results of their observations on split pits are requested to send their names to Prof. Stubenrauch at Berkeley.

#### Handling Peaches on the Kimble Ranch.

The harvesting of the peach crop has called into activity all the unemployed men, women and children in this section, says the Selma Enterprise, and thousands of persons are engaged in the work, which commenced the first of this month and will last for two or three weeks longer. Some of the larger orchards employ from 100 to 200 hands, and it is in these that the scene of activity is greatest. At the Kimble peach orchard over 200 persons are employed. Here may be found a typical California orchard, consisting of nearly 300 acres in bearing peach trees. It is located 6 miles northeast of Selma, and the writer visited the place one day this week.

Ninety women and girls are employed in the cutting shed, where the peaches are hauled in from the field to be divided and the pits removed. The peaches are cut into half by the quick-fingered women, who spread the fruit on trays. The cutters receive 5 cents a box for their work and make from \$1 to \$2 a day.

Whole families are engaged in the work, and in this case the income amounts to no small sum from the season's labor. Several families are making from \$5 to \$6 a day. The men are employed picking, hauling and handling the fruit and do all the heavier work in the way of lifting, etc. The men receive \$1.75 a day.

Everything is conducted on a big scale on this ranch. The trays on which the fruit is dried are 3x8 feet, and the drying grounds where the peaches are placed in the sun to cure consists of twenty acres. The fruit is hauled to the sulphur bleachers from the cutting sheds on forty-six cars, which are busily engaged all day long. There is a bleacher for each car, so the work goes on expeditiously. Besides Superintendent A. A. Channell, there is a shed foreman, a yard boss and three field bosses to look after the small army of workers.

Twelve hundred tons of fruit will be picked from the trees on this place the present season. This would make 100 carloads of fruit. Most of the fruit is being dried, but about 200 tons of the cling peaches, for which \$20 a ton was received, will be shipped to the cannery. It is estimated that the remainder will make 200 tons of dried peaches. At 5 cents a pound, this would make the gross receipts of the ranch at something near \$25,000. However, there is an immense expense, and labor will receive a good share of the amount from this bonanza ranch.

The 200 fruit workers camp on the central driveway, where there is an abundance of shade. It is a cosmopolitan crowd, but all are too busy to engage in looking into the social status of their neighbors. However, there is an evidence of many little courtesies between the campers. Most of the campers have tents, and there is much life and novelty in the experience.

## THE DAIRY.

### The Dairy Cow.

By MRS. MINNIE ESHELMAN SHERMAN at the University Farmers' Institute at Long Beach.

Scientific dairying, as to the feeding of the cow and the handling of her product, has been the outgrowth of the specialized work of the dairy school experts. While the creamery man, with his manner of paying as little as possible for what the cows produce, has made the dairyman take out his pencil and learn to figure exactly what the cows do earn; so he has, by calculating, brought the keeping of the cows down to a business basis.

**HISTORICAL.**—The first historical mention we have of the importation of cattle is that they were brought by the Europeans to Mexico about the year 1525. The mild, equable climate and the abundant grass covered ranges caused them to multiply rapidly, and they soon covered not only the plains of Mexico, but those of Texas and California, with their offspring.

The first improved cattle came to Virginia from Holland in 1625, and were of beef and milk form. The oxen were powerful animals, plowing the new lands, while the cows furnished a small amount of milk for the settler's family. The first cows used solely for milk were brought from Normandy to Quebec by the French emigrants. It is said that these yellow, dun and silver gray Normandy animals enter largely into the foundation strains of both the modern Island Jersey and the brown Swiss cattle. They were of medium size and gave a fair quantity of milk, while the oxen were large enough for plowing in a hilly country, like Canada and New England.

However, the dairy cow was, as yet, of little value in the eyes of the farmer, for as late as 1825, at a Massachusetts county fair there was no class for

cows or for butter or cheese; but there was the surprising entry of 100 yoke of oxen competing in feats of strength and docility. I wonder if there were some old men there to croak at that county fair as an ox show, just as we croak to-day that our fairs are mere race horse matinees.

The beef strain is very hard to breed away from; even in the fifth and sixth generations of cows it often crops out when cows are fed for heavy milk production. Many a good grade cow has slipped off into beef when five or six years old, causing a loss—for it does not pay to fatten a beef on dairy rations. When we consider a good cow should produce 350 pounds of butter, worth, say 25 cents a pound, or \$87.50 in a year, it is, indeed, killing the goose that lays the golden egg to sell her for cow beef at \$30 to \$40. You see, we do not believe in the general purpose cow, though it may seem presumptuous, for she has prominent advocates, but then, "seeing is believing," and we have never seen one.

**DAIRY POINTS.**—Now, in selecting a cow for dairy use, one of the principal points is the stomach; it should be large and somewhat pendant—never set flush with the backbone, but always leaving a ridge. The stomach should suggest that the digestion is ample, and that the consumption of food can be pushed heavily, and yet a margin of reserve force remain, for the drain from the heavy milk flow should be urgent, and her appetite constant if she is to continue in profitable milking for the entire year.

Draw an imaginary line directly across the cow's body in front of her udder. First of all, notice if ample breeding power is indicated by the width of her pelvis. The hips should be high, the thighs wide and encircling well; a strong, rugged backbone, with a distinct rise at the rear, so as to make the animal taller at the rump than at the shoulder. This rise should be gradual, and in improved breeds is rarely a rough, disfiguring hump. The tail should be long and slender and set high enough to carry out the high line of the pelvic arch. She should be thick through in front of the line to give ample room for heart and lungs, with a large navel and well developed milk veins, with a skin soft and full of oil. The head and neck should be fine and feminine, the breast without brisket or dewlap; the eye clear, prominent and full of gentle intelligence, while the under jaw should be strong and rather short. The spare hind quarters of the dairy cow have grown lighter and lighter in the years past.

**THE UDDER.**—The teats should be well placed and of convenient size and shape, neither too large nor too small, and far enough apart to be easily milked dry. The two small rudimentary teats behind the four regular ones are a good indication for a milk continuance in a cow. The Swiss say that they indicate a cow will transmit her quality as a milker to her offspring.

The elaboration of milk by the cow is a physiological mystery about which little is definitely known. The alliance between blood supply and the milk shows, however, to have a copious supply of milk, there must be a correspondingly generous supply of blood. The blood flows from the heart to the udder, and passes into the milk veins, and back through the milk wells, near the forelegs into the body, returning again to the heart and lungs. The milk veins show by their size and engorged condition the amount of blood they carry. The milk wells should be large enough to admit easily the second finger of a man's hand.

The front part of a cow's udder is often less well developed than the rear portion. Here is a loss in milk greater than is commonly recognized. Some years ago Professor Plumb found in thirteen cows deficient in the fore part of their udders that the hind teats gave 57% more milk than the front ones.

**OLD COWS.**—As to how long a cow should be retained in the herd each must decide for himself; but I am satisfied that many people sacrifice their cows by selling too soon, as they are afraid the cow will become too old for the butcher. I have kept many cows until they were worthless for beef and thought that it paid rather than to lose a year or two of good milk. The mature cow has outgrown the likelihood of milk fever and garget, and has shown she possesses good lungs and a good digestion and that her disposition is good. We have had cows eighteen years old that made 350 pounds of butter in a year. By the records of 486 cows kept for seven years, the age of greatest profit in a cow's life is from six and a half to fourteen years old. The Holland Government tested a large number of cows to find at what period of cow's life the milk contained the greatest amount of butter fat. The period was fixed as from the seventh to the eighth year, and that in a healthy, well fed cow the milk capacity increased up to the twelfth year, the flow remained stationary until the fifteenth year, when it usually decreased until the cow became farrow.

**SIRE.**—The selection of a pure bred sire to head a grade herd is wise. This sire should be a good individual, strong in his race type, with a backbone as rugged as the ridge of a continent, without brisket or dewlap; a distinctly masculine head, with a good, mellow skin. He should show rudimentary teats and dairy form in his rear conformation. It is important, though often overlooked, that the dam of this sire should have a perfectly formed udder—for form of

the udder is strongly transmittable, and each breed has a type of its own. The sire should have a lively sense of his own importance, and not be willing to be imposed on by rough handling. He should fight if cornered, for the gentle bull rarely imparts grit to the offspring, and endurance seems to be founded in temper. Listless, flabby people are amiable; so is a listless, inert bull. The very word, bully, should indicate his character; he should be ready to bluster and fuss at any infringements of the rights of his harem. It is better for the head of a grade herd to be a strong, typical individual than one whose dam is a phenomenal, record-breaking cow. There are many fine bulls sacrificed to the idea that nature will permit sudden great elevations of quality. Now, quality must be backed by the physical health of the animal; so, if we push quality before conformation, or correct form has been built up strongly, we are apt to lose health. Milk production is a heavy strain, and the animal must not only be physically educated herself to stand it, but must have inherited the acquired constitution from her dams.

Each sire used in breeding the herd should be more refined in type than his predecessor. We believe in each generation having fresh blood introduced, and do not believe in incestuous inbreeding.

## THE APIARY.

### Some Bee Keeping Statistics.

At the meeting of the Texas Bee Keepers' Association last month Prof. E. Dwight Sanderson, State Entomologist, gave some very interesting comparative figures on apiculture in the different States:

We are wont to be proud of the fact that Texas leads all the States in amount and value of bees and their products. I have been studying the statistics of apiculture in Texas and other States as given in the Twelfth United States Census, and have secured some facts on this subject which may be of interest to you. It seems that Texas bee keeping is much like the live stock industry with the longhorn steer—large quantity and very little quality. We are proud to number some of the most successful and progressive bee keepers of the country as Texans; but for every one of these there are a thousand devotees of the old "bee gum" whose bees and their product vastly increase the quantity, but woefully lower the quality of the apiary products.

First, let us compare the industry of Texas with that of the United States and other States and sections. Bee keeping is more popular here than in many States. Seventeen per cent of our farms have bees, while there are only 12.3% of those throughout the United States. But in nearly all other respects Texas stands near the bottom of the list.

The average amount of honey produced on farms reporting bees for the United States is 86.5 pounds; for Texas 79.5 pounds; slightly more than the average for the South Central, 66 pounds, and South Atlantic States, 62.4 pounds, but less than the North Central, 85.8 pounds, North Atlantic, 106.9 pounds, and far below the Western States with 304.4 pounds per farm reporting. Likewise the average value of honey produced on farms reporting bees for the United States is \$9.42; for Texas, \$7.80; the South Central and South Atlantic being \$6.90 and \$6.78; while the values are greater in the North Central, \$10.07, North Atlantic, \$12.50, and Western, \$28.38. In the United States the honey product per colony of bees averaged 14.9 pounds; for Texas, 12.2 pounds; for the North Central States, 16.9 pounds; for New York, 18 pounds; for California, 28.3 pounds; for Colorado, 29 pounds; and for Arizona, 49 pounds. The average for Texas is slightly more than that for the Southern States, 11.3 pounds, but is exceeded by that of Arkansas, Kentucky, Virginia, West Virginia and Florida. The average production of wax per colony for the United States was 43 pounds; for Texas, 41 pounds; for Arizona, 69 pounds; and California, 89 pounds.

But the value of the product of the average colony is the best indication of the quality of our bees and status of bee keeping in Texas. The average value of honey and wax produced per colony for the United States was \$1.62; for Texas, \$1.19; lower than the average for all the Southern States, \$1.20, and exceeded by all other sections of the country as follows: North Atlantic Division, \$1.94; North Central Division, \$1.98; Western Division, \$2.54; California, \$2.56; Colorado, \$2.87; and Arizona, \$3.55. In other words, whereas the Texas product was valued at \$468,527 in 1899, had the colonies been as productive as the average for the United States would have been worth \$637,363; and had they produced as much as those in the Northern divisions it would have brought \$770,972; while had they averaged as well as the Western division the value would have been more than doubled, and considerably over a million dollars.

The same point is brought out by a consideration of the average value of bees per colony. For the United States this is \$2.42; for Texas but \$1.91; there being only seven of the States (mostly Southern) having a smaller value, while the average for all Southern States was \$1.95; for the North Central,



\$2.95; Western, \$3.10; and North Atlantic, \$3.31. Thus the total value of Texas bees, \$749,483, though about 50% greater than that of any other State, would have been increased to \$973,090 had they been worth the average for the United States, and to about \$1,200,000 had they been worth the average value exclusive of the Southern States. Altogether, had Texas bees been of a quality of those of the average for the United States their total value, with value of their product, would have been about \$400,000 greater; and had they averaged with those of the Northern and Western States, they would have had about \$750,000 greater value, and been worth approximately one and a half million dollars.

#### Inyo County Society's Honey Sale.

The Inyo County Bee Keepers' Association met, as stated by the Bishop Register, to act on bids for this year's honey crop. Three bidders appeared, Messrs. N. J. Cooley, W. A. Trickey and J. S. Armstrong. Offers began at \$185 per ton and advanced by easy stages to \$201 per ton, at which figure the award was made to Mr. Armstrong, representing the Gregory Fruit Co. of Redlands. Delivery is to be made not later than September 30, the honey to be paid for on delivery at any railroad depot in the valley. The price is for all good honey, not merely fancy alone, and so far as we are informed is the best secured in recent years. The purchaser will accept honey from those outside the Association if it comes up to the Association requirements in quality and packing.

The Association is endeavoring to establish a permanent market, and accordingly voted to exclude all rabbit brush honey, as well as all badly stained or poorly sealed. On this, as well as other matters coming up, the vote was unanimous.

The good price secured is traceable to organization of this Association and of a similar institution in southern California. By union the bee keepers have secured lower prices for supplies, as well as fine selling prices. It is hoped to be able to arrange so that the coming year's supplies will be secured this fall and hereafter kept in stock.

#### THE VETERINARIAN.

##### Contagious Sore-Eyes in Cattle.

Dr. A. S. Alexander, veterinarian of the Wisconsin Experiment Station, gives the following suggestions about the so-called "pinkey"—properly termed contagious ophthalmia—among cattle:

**Symptoms**—Adult, young cattle and calves that first show swelling of the eyelids, accompanied by weeping and redness of membranes of eyelids, the "haw" becomes apparent, creamy discharge follows, and in three or four days a clouded spot shows in center of eye and gradually spreads until "sight" of eye becomes milk-colored. Changing from milk-color to pearl tint eye may become yellow, bulge, show blood-shot streaks, form an abscess and burst, leaving a ragged ulcer or commence to clear up and finally recover. Slight ulcers may heal by granulation, but extensive ruptures and ulcers often lead to loss of sight. Fever and some loss of appetite is present, especially in young cattle, for a week or more from time of first attack and dairy cows may shrink in milk production.

**Treatment**—The disease being "catching" and doubtless due to a germ which leads to its spread from one animal to another, affected cattle should be separated from unaffected; eyes of latter should be washed once or twice a week with a solution of two drams of boracic acid in a pint of water as a possible preventive, and pastures bordering on rivers, ponds and sloughs should be abandoned, as the disease seems most liable to attack cattle in such low wet ground. Place affected cattle in a darkened shed or stable. Give each adult animal a 1-pound dose of Epsom salts with 1 ounce of saltpeter and 1 ounce of ground ginger root in two quarts of warm water as one dose and follow with a tablespoonful of saltpeter twice daily in drinking water or soft food. Younger cattle should have the same medicine in smaller doses, according to age and size. While under treatment do not feed grain, but give soft and green food; allow all the cold water animals will take. At the commencement of an attack puff between eyelids by means of a clean insect-powder bellows a mixture of equal parts of finely powdered calomel and boracic acid or cover eyes with a soft cloth to be kept wet with a 1% solution of bichloride of mercury (corrosive sublimate). This treatment may prove sufficient in a majority of cases, but should the disease persist and aggravate, substitute for above lotion one consisting of a dram each of sulphate of zinc and fluid extract of belladonna leaves with 20 drops of carbolic acid in a quart of clean soft water, with which to keep cloth over eyes continually wet. When inflammation subsides, should eye remain milky-appearing, paint once daily with 1% solution of bichloride of mercury or 3% solution of boracic acid. In bad cases, which are tardy in responding to treatment, give, except to pregnant cows, 1 dram of iodide of

potash, twice daily for adult animal and from 10 to 20 grains for calves and yearlings, continuing its use for one week. Ragged ulcers may with benefit be painted with a solution of 3 grains of nitrate of silver in an ounce of distilled water two or three times a week. Lastly quarantine animals bought at stock yards, shipped in or from infected herds.

#### THE BOTANIST.

##### The Mosquito Plant Not Effective.

In the PACIFIC RURAL PRESS of June 13 last we printed a note from Mr. T. J. Fitch, a Placer county subscriber, citing a report in the London Times that an effective mosquito-killing plant had been found. Mr. Fitch now sends a later article from the Times, showing how anticipations have been cut very short by investigation and trial.

**THE CLAIM.**—On the 29th of last April we published a letter from Captain Larymore, R. A., resident in Northern Nigeria, in which he described the supposed virtues of a variety of basil, the *ocimum viride*, to which he gave the name of the "mosquito plant," and which was said to possess properties injurious or repulsive to these insects. Captain Larymore asserted that by placing two or three growing pots of the plant in each room, and along the windward side of the veranda, a house could be kept practically free from mosquitoes; and, further, that a mosquito which he caught alive and "tenderly enclosed" within a leaf of the plant lost consciousness in a few seconds. He further told us that an infusion of the leaves is held by the natives of Northern Nigeria to be more efficacious than quinine as a remedy for malarial fever, and he suggested that the plant should be used in barracks in India, where the soldiers are not supplied with mosquito nets. Captain Larymore was followed a day or two afterwards by Sir George Birdwood, who wrote to the effect that allied basil has been known from time immemorial throughout India as a defence against mosquitoes and as a prophylactic in malarious districts, and who added that, when the Victoria Gardens and Albert Museum were being constructed in Bombay, the men employed in them were so pestered by mosquitoes and suffered so much from malarious fever that, at the recommendation of the Hindu manager, the whole boundary was planted with holy basil and with any other basil which were at hand, with the consequence that the plague of mosquitoes was at once abated and that fever altogether disappeared from among the resident gardeners and temporarily resident masons. Captain Larymore mentioned that a growing specimen of the plant which he had succeeded in bringing home alive had been accepted by the authorities at Kew, and it can hardly be a matter for surprise, in such circumstances, that these authorities have in the interval received letters from all parts of the world asking for seeds. We can not but feel some regret at being compelled to announce that the expectations founded upon the letters of Captain Larymore and of Sir George Birdwood are not likely to be fulfilled.

**HOW THE DISCOVERY WAS KNOCKED OUT.**—Sir William Thiselton-Dyer, the Director of Kew Gardens, has sent us for publication a report upon the subject made to the Governor of Sierra Leone by Dr. Prout, the principal medical officer of health to the colony. In this report Dr. Prout has shown that the supposed ill-effects of the indicated basil upon mosquitoes are not produced; and that the insects live, thrive and feed, when confined in close proximity to the plant, just as readily as they do under ordinary conditions. It will be observed from the report that the experiments described are all positive in their results, and hence that, as Sir W. T. Thiselton-Dyer tells us, they dispose conclusively of the belief that the basil in question possesses any real protective value. The evidence on which it was supposed to do so was, of course, entirely negative, and at most merely amounted to the fact that when the plant was present something which might have happened in its absence was supposed not to happen. In the case of Bombay, of course, account must be taken of the probable effects of the very planting and other works which were in progress, in drying up the pools in which the larvæ of mosquitoes breed; and it is quite possible that the alteration thus effected in the local conditions may have been quite sufficient to explain the consequences which followed. However this may be, it is impossible not to sympathize with Dr. Prout in his expressions of regret that statements calculated to lull people into false security should have been published, since they may possibly lead to neglect of the only precautions by which real security can be obtained. Delusions about supposed remedies or prophylactics arise and take root in all countries, and there are many parts of England in which it is commonly believed that the fresh leaves of the ash tree are distasteful to gnats and will exclude them from any bedroom in which a bough is suspended. It would, no doubt, be possible to find many persons who would testify that they always hang up ash leaves in their rooms when they are procurable, and that in consequence gnats never bite them. The

explanation of such coincidences, even if they really occur, may, as Dr. Prout shows, be a perfectly simple one, and the ascertainable facts may be quite insufficient to justify belief in the efficacy of the supposed remedy. If such belief has been produced with reference to the basil, it can hardly long survive the very complete exposure of the true character of the data on which it has been based. The destruction of idols is often painful to those who have trusted in them; but, in the present instance, it is clearly for the benefit of all inhabitants of malarious countries that they should be preserved from reliance upon a proceeding which has been clearly shown to be absolutely useless.

#### THE STOCK YARD.

##### What the Scrub is; and How He is Produced.

Written for the PACIFIC RURAL PRESS by MR. E. W. HOWARD,  
Director of the State Agricultural Society.

The scrub bovine is the first cousin to the cur dog, which no one wants and which every one takes a kick at. The longer you keep him the poorer you get. It will not be many years before the scrub of the bovine species will be regarded in the same light as the cur dog; and the quicker this takes place the better off the farmer and the country at large will be. He is the product many times of ignorance, sometimes of carelessness or accident, and often of environment. Many scrubs are produced by the effort of the farmers to combine the desirable qualities of two widely different breeds by crossing, and then, not finding themselves successful, make bad matters worse by putting in a dash of something else. This man is following a method akin to the one who invests his savings in a "get rich quick" scheme. There are no short cuts in successful breeding, and the man who starts out to produce, by crossing, something better than his neighbors or any one else has, will find that he is a good deal in the same box as the beleaguered traveler hunting for the oasis which he sees just ahead of him but never reaches. In some cases the first cross has proved partially successful; for instance, the cross of a white Shorthorn bull upon the Galloway cattle producing the blue roan "prime Scotts"; all the produce, both male and female, are fed off to the block, however, and there are no scrubs produced. The Shorthorn gives size and substance to the smaller, smoother Galloway, and a neat carcass is the result. The inadvisability of crossing can be seen even in this case, for if the females of this cross were retained for breeding the problem would arise: What next? If a Shorthorn bull were used, the get would be grade Galloways. In neither case would the produce be the same as the first cross, and would be inferior to either of the breeds of Shorthorn or Galloway in their pure state. The canny Scot knows this well and never goes beyond the first cross in producing his market toppers.

Is not the man who selecting pure stock of the breed best suited to his purpose, showing the conformation and type which is best suited to that purpose, and hammers away to mold them further to the ideal type suited to the purpose in view by careful selection and hewing to the line, producing something of more lasting benefit to himself and mankind in general? There can be no question, for what cross ever equaled the marvels of Amos Cruickshank's production for early maturity, aptitude to fatten, and all the other requirements of the rent-paying sort. The so-called "prime Scotts" are not in the same class when it comes to filling all the market requirements; and the beauty of it is that the Cruickshank productions breed on by reason of their pure breeding; and as a result very few ever found their way to the block, for they were in too great demand by other breeders to head their Shorthorn herds.

Probably the most frequent and most prolific producer of the scrub is the ignorant dairyman, that is, ignorant of nature's laws and the subject in hand. He reasons something like this, and I have often heard him say: "If I breed a Jersey bull to my Holstein cows, I will get the quantity of the Holstein and the quality of the Jersey." But ninety-nine times out of the hundred he gets the quantity of the Jersey and the quality of the Holstein, unless he has a very strongly prepotent Jersey bull, in which case he will get grade Jerseys. The reason for this is evident, for when two breeds of strongly different characteristics are crossed, the widely different elements all seem to be pulling against each other, and the result is a marked deterioration all around of desired or what might be called developed characteristics.

Nature seems to revolt at sudden changes, and is not equal to combining strongly different characteristics of widely different breeds, and the result is a reversion to an organism combining the inferior or what might have been the primal qualities of the breeds before they were developed by careful breeding and feeding to their separate types of usefulness. The "scrub" is the result, suited to no special purpose of man, filling no requirements well—as it were, a burden to the community and an economic loss. It has been truly said "that none but the rich can afford to breed scrubs."



## Agricultural Review.

### BUTTE.

**CHICO ALMOND CROP.**—Record: The Chico almond crop, according to the opinion of buyers, will amount to about twelve or fourteen carloads this year. This is the crop from the immediate vicinity of Chico, and is about half the normal crop. The average prices being paid are from 10 to 10½ cents a pound. E. T. Reynolds & Son have purchased from Chico and Orland growers in the neighborhood of eight to ten cars.

**PRIZE PEACHES.**—Chico Enterprise: T. M. Gumm, special collector of specimens for the State Fair from northern Butte, exhibits a fine sample of peaches. They are Susquehannas from the Dicus Brothers' orchard below Cana, and are rich in color, luscious, fragrant and of immense size. Mr. Gumm says he can pack but fifteen of them in a 20-pound box, and that there are countless thousands like the ones he secured on the 100-acre orchard which the Dicus Brothers own and operate.

### HUMBOLDT.

**CREAMERY PRICES.**—Arcata Union: The creameries of this section paid the following prices for butter fat on Aug. 15: Minor, 25½c; Arcata, 26c; Schulz, Niggle & Co., 25c; Premium, 26½c. The creameries in Eel River Valley on Aug. 15 paid as follows: Capitot, 26½c; Cold Brook, 26½c; Cold Springs, 26½c; Cream Valley, 25½c; Crown, 26½c; Eel River, 25½c; Excelsior, 26½c; Ferndale, 26½c; Grizzly Bluff, 26½c; Georges, 25½c; Independent, 27c; Pioneer, 27½c; Riverside, 27c; Silver Star, 27½c; Sunset, 26½c.

### KINGS.

**BOUNTEOUS HARVEST.**—Hanford Sentinel: Ed Howe reports that a great deal of the wheat near the mouth of Kings river is turning out between twenty and thirty-five sacks per acre. It is of the finest quality and will command a good price for the fortunate owners.

**CASABA MELONS.**—Hanford Journal: U. S. Wright, whose farm adjoins Hanford on the east, brought into the Journal office a Casaba musk melon weighing twenty-nine pounds. Mr. Wright has had one of these melons which weighed thirty-two pounds.

### LOS ANGELES.

**HOLDING APRICOTS.**—Pomona Progress: The Santa Ana Dried Fruit Association has decided not to let its output of dried apricots go for 7c, and will hold them for better prices. It controls the major part of the crop of that valley and expects to get about 9c a pound for the fruit by holding it awhile.

**THIRTY THOUSAND DOLLAR RANCH SALE.**—The old Frisell place, known as the Golden Terrace ranch, has been sold by William Bosbyshell, the owner for the past two years, to C. J. Heyler for \$30,000. The ranch comprises about forty acres, planted to oranges, lemons and grapes. There are a seven-room frame ranch dwelling, good barns and out-buildings and a pumping plant on the premises.

**HEAVY CORN CROP.**—Monrovia Messenger: Fred Lummer has a twenty-acre field of corn on his ranch near the San Gabriel river. It has received no irrigation and yet will yield from seventy-five to eighty bushels to the acre, as on each stalk are from fifteen to twenty ears of well filled corn. The crop is said to be the best in the San Gabriel valley.

### MENDOCINO.

**OUTPUT OF GRAIN SMALL.**—Ukiah Dispatch—Democrat: John Brown's threshing machine, after a run of only eight days, has threshed all the grain in the valley. Crawford Bros. threshed about twelve days, as against twenty days last year. The output of grain in the valley will not exceed 20,000 bushels. Time was when it would take forty or fifty days to thresh the grain, when the output exceeded 100,000 bushels. Mendocino county has found out that grain growing is not a very profitable industry, and attention has been turned to other things, which it is hoped will bring in greater returns.

### MERCED.

**FIRST CAR SOLD.**—Stockton Record, Aug. 19: Major J. D. Peters received a telegram to-day stating that the first load of fruit shipped by him this season from his plantation near Atwater to New Orleans had arrived in good condition and had been sold for \$1090. The car consisted of peaches, pears, plums and grapes. The peaches sold for 90 cents a box, the pears for \$2, the plums for \$1.50 and the grapes for \$1.60. The car was just twelve days in reaching its destination. Two other cars of Major Peters' fruit are on the road. His fruit is of extra quality this season and he expects to ship many cars before the year closes.

### ORANGE.

**DRIED FRUIT MEN STAND PAT.**—Santa Ana Blade: The season's yield of dried apricots is the finest ever seen in the Santa Ana valley in point of quality, but so far there have been no sales recorded. There are said to be about thirty-five cars of dried apricots available for shipment this season in this district, and all of this is of the very best in quality. So far the best offer made has been 7 cents a pound, but the growers will hold for a raise and are confident they will get it before long. The Dried Fruit Association closed its membership books with control of about 115 tons, and what these people do in regard to selling will probably be patterned after by the other growers.

### SAN DIEGO.

**THE GRAIN CROP.**—Escondido Advocate: F. H. Roberts reports that he has 75,000 sacks of grain under contract to thresh, and estimates that with the number of machines on the field the yield of grain in this county this season will exceed 500,000 sacks, of which amount the Escondido region will furnish about 240,000 sacks. The prices run high and the buyers are snatching up the grain as fast as it comes from the machines.

**FINE CATTLE.**—S. J. Mendenhall of Smith mountain has received eight fine thoroughbred Hereford bulls, purchased in Arizona. The eight animals cost him \$1600 delivered in the stock yards at Escondido.

### SAN JOAQUIN.

**MAMMOTH APPLES.**—Stockton Record: B. M. Bixler of Undine has sent to the Chamber of Commerce headquarters seven immense apples for preservation. They are of the Bietingheimer variety and are without doubt the largest ever seen here. The seven apples weighed seven pounds and three ounces. The largest one weighed one pound and five ounces.

**MAMMOTH CORN.**—William Hahn has grown some mammoth sweet corn at Stockton from some seed corn furnished by the Government and secured from the Stockton Record office. The stalks averaged from 13 to 15 feet high and had from five to six ears on each stalk. The ears are also unusually large and of fine flavor.

### SANTA CLARA.

**PRUNE CROP LIGHTER THAN LAST YEAR'S.**—San Jose Mercury: In order to ascertain the outlook for the dried prune output this season the Sorois Fruit Co. has had a census taken by J. T. Green. Mr. Green is himself an orchardist. He has visited 134 orchards. In 102 of these orchards, representing a total of 1438 acres, there were last year 4844 tons of green prunes. This year the estimate is that they will have only 2889 tons. In another section of the west side of the valley Mr. Green visited 32 orchards, representing 558 acres. Last year 506 tons of dried prunes came off the grounds; this year the estimate runs all the way from 40% to 75% of last year's crop. Such is the result of a house-to-house canvass, showing that this year's crop will not average more than 60% of last year's. Those figures indicate a strong reason for a stiff market price for prunes this season.

**FRUIT GROWERS OF LOS GATOS.**—San Jose Herald: The Los Gatos Fruit Growers' Union was organized on the 19th inst. by the election of the following directors: W. A. Manion, John Thompson, E. R. Whitman, J. B. Morrell and J. Stanfield, who were authorized to immediately proceed to incorporate under the law of 1895 and issue membership certificates to twenty-five members who had signed the roll. There are about 500 tons of dried prunes in sight and quite a number of growers yet to be heard from who could not attend the meeting. Since the organization of the Los Gatos Fruit Growers' Union the price of green prunes has advanced from \$17 by rapid strides up to \$25 or better, though a number of the members propose drying their own fruit, or having it dried for them.

### SISKIYOU.

**FINE SPECIMENS OF GRAIN.**—Scott Valley Advance: A specimen bunch of wheat, oats and alfalfa was brought into town Saturday by Mr. and Mrs. Potter. It was raised on their ranch in Norse valley. The oats stand 8 feet high, the wheat over 5 feet and the alfalfa 4 feet. He expects to gather an unusually large crop of grain to the acre this season. The land that is producing this crop has never been irrigated.

### SONOMA.

**LARGE HOP CROP.**—Santa Rosa Press-Democrat: T. Boone Miller states that he has a fine large crop of hops on his Russian river ranch and has already contracted some at 20 cents per pound.

### SUTTER.

**FORTY THOUSAND CASES ALREADY PACKED.**—Independent: The Sutter Pre-

serving Co. intended at the beginning of the season to pack 100,000 cases of fruit and vegetables, and from present indications the pack will far exceed this amount. Already a little more than 40,000 have been put up and the season is not near half over. It is expected that the company's tomato pack will exceed 60,000 cases. At present they are working about 400 hands on peaches and pears. Later in the fall beans and pork and beans will be put up and the new plant promises work for its employees until late in November. To this date about fifty carloads of canned goods have been shipped.

**PRICES BEING REALIZED FOR DRIED FRUITS.**—Yuba City Farmer: The early varieties of dried peaches are selling in small lots at from 4½ cents to 5 cents per pound, but the later peaches, such as Muirs, will go higher. Most of the peaches are still on the trees or on trays in the dry yards. Prunes are looking well and will be larger and of better quality than last year. Some sales are being made here on a 2½ cent basis. The seedless grape crop is ripening fast and considerable shipping has been done. Next week the picking for drying will commence. Some few lots have been sold at \$20 per ton green, but no definite prices have been made on the dried product. Most of the Muscatel crop has been sold at about 3½ cents per pound.

**WILL DRY THE RIDEOUT PRUNE CROP.**—Rosenberg Bros. & Co. have purchased the crop of prunes at the Rideout ranch and J. B. Wilkie will dry the same. He will establish a yard at the orchard and dry the fruit there. The crop will be about 150 tons green.

**CONTRACTS MADE FOR ALMONDS.**—At the last regular meeting of the Sutter Almond Growers' Association the crops of the members, amounting to about 120 tons, were sold on contract to Rosenberg Bros. & Co. at the following prices for the varieties named: I. X. L., 10c per pound; Nonpareil, 10½c; Ne Plus Ultra, 9½c; Drake's Seedling, 8½c; Languedoc, 8½c; Golden State, 8c; Peerless, 9c; Llewelling, 8½c; Roulter Soft, 8c; Commercial, 8c; Laprima, 9c; Mixed, 6c. The Association first opened bids two weeks ago and rejected same as not satisfactory. The price for which the sale was made was about ¼c per pound in advance of the previous bids. The almonds will be delivered in sacks bearing the association mark, and the organization is now on solid footing and the members will continue to act together along those lines.

### TEHAMA.

**A LARGE PEAR ORCHARD.**—Chico Enterprise: Pickers are at work gathering the pear crop off the Stanford ranch at Vina. It is estimated that there will be nearly 500 tons of this fruit, most of which will be sent to the drying yards at Red Bluff, but large quantities will be shipped to the canneries at San Francisco and San Jose.

**WILL SHEAR IN MOUNTAINS.**—Red Bluff News: Wool growers generally will this year shear their sheep in the mountains and haul their wool to the valley, instead of shearing in the valley. They figure that by so doing they can keep the sheep longer on the mountain ranges and save the feed for a month or more on the winter ranges. The sheep will probably be kept in the hills until after the first rain.

**THE FRUIT INDUSTRY.**—James Feely, who has been appointed as selling agent for the Tehama County Fruit Company, the company that lately put up the evaporating plant at Red Bluff, says that this year the prune crop of Tehama county will be the largest ever known. The pear crop, which is pretty well gathered, is also very large this year. There was also a very large crop of apricots. The peach crop, although fairly large, will fall short of the average.

## Horse Owners! Use



GOMBAULT'S

## Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best ELISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charge as follows, with full directions for its use. Send for descriptive circular.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## Alfalfa Land \$2 per acre. cash.

50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

## GLENN RANCH,

Glenn County, :::: California

## FOR SALE

### In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## To Stock and Dairy Men.

We have for sale a ranch of 421 acres, all fenced, on the Tuolumne river, 1 mile from railroad station. 5 miles east of Modesto; one-half the land in irrigation district. It has 300 acres in alfalfa; 40 acres of timber land, bearing probably \$5000 worth of wood; good family orchard, including orange, apple and orange trees; and 5-room house, 2 barns, sheds, shops, windmill house and tank house, all in good condition. Lateral No. 1, Modesto district, runs through the ranch. The ranch will carry 300 head of stock at the present time. Easy terms.

Also, small tracts of size to suit, at from \$20 to \$80 per acre, and on easy terms, in either Turlock or Modesto irrigation districts. Perpetual water right with the land.

ADDRESS, FOR PARTICULARS,

## T. E. B. RICE & SON,

Real Estate Dealers,

MODESTO, CAL.

## Moravian Barley.

Grown in the Livermore valley from seed brought to this country from Hungary by the U. S. Agricultural Department.

Hanna or Moravian Chevalier heads out two weeks earlier than the Chevalier usually grown in this State; resists drouth, hot weather and wind better than other varieties. In Germany and Austria it is known as the best brewing barley.

FOR SALE IN QUANTITIES TO SUIT BY

## August Hagemann,

LIVERMORE, CAL.

## The Fresno Scraper.

3½-4-5 Foot.



FRESNO AGRICULTURAL WORKS, FRESNO, CALIFORNIA.



## THE HOME CIRCLE.

## Our Babies.

Thirty-one years ago this fall the proudest young mothers of Bly Were Mary Ella and Maud Estella and Isabella and I. Bella's baby was named Irene, and my little boy was John, While Paul and Madeline were the names the other two hit upon. And which was the prettiest infant not one of us could say, And which turned out the smartest we don't know to this day. All of them tiptop babies, sturdy of limb and spine, Were Isabella's and Maud Estella's and Mary Ella's and mine.

They all had the mumps together and measles drear with spots; They all played ring-round-rosy—the cunning little tots! They all made burdock baskets and dandelion rings, And roofed in a fence corner for dishes and dollies' things. They all had a calf and a lamb apiece, and a garden plot that bore Some watermelons and strawberries and experience for four. Coming from school they kept as close as four grapes on a vine— Isabella's and Mary Ella's and Maud Estella's and mine.

Ah, me! how fast the children grow! The season's onward fare And lift the babies' faces, oh, so high up in the air! Their heads go up, their thoughts go out, their hearts are large and sweet, And mother love is not enough to make their lives complete. No matter! John's wed to Irene, and Paul to Madeline; They still are Bella's and Mary Ella's and Maud Estella's and mine. Thirty-one years ago! And now the proudest grandmothers in Bly Are Mary Ella and Maud Estella and Isabella and I!

—Ethelwyn Wetherald.

## A Matchmaker.

"Dear Brother Jim: This is a very nice place, and I am enjoyin' it accordingly. We are about a mile from the village and the road is good and Miss Laura and I drive over twice a day. Miss Laura lets me drive sometimes, but she's afraid I'll get the horse—his name is The Dook—out of the stile of driving that women prefer. And when I titen up on the lines and The Dook strikes a lively clip, she says "Steady Tommy," and then I have to pull him in. But she is a nice girl notwithstandin'. She has the prittiest brown hair, and such depe dark eyes, and such a sweet way of speekin'. And they have a butiful home. It's on a hill and you can see miles around it. From my window I can catch site of the lake thru a gap in the hills. It's a very nice lake tho not depe enuff to drown me—and Laura's father owns it. They say he is pretty rich. Mr. Rummidge—he sells books in the village and lets you borrow them for too sents a day—says Laura's father is a village Creeses. It tells about Creeses somewhere in a book and he was the richest man in the State, but I think he is dead now. I gess you must have heard about him. He was a hystorykal karakter. I wish you was here, Brother Jim. We'd have grate times. Laura's most as good as a boy for havin' fun. Thare I hear her callin'. The Dook is a-champin on his bit and waitin' impashent at the cassel gait. That's the way Laura talks. She's most as good as a play actor. Aunt Emmyline says Laura's romantick. So I must close. Write just as soon as you hear from papa and mamma. From your loving brother,

"Tom."

James Thornton, rising young attorney, smiled over the epistle and laid it away carefully in a pigeonhole of his desk, whence it would be taken and inclosed with his letter to the absent parents across the sea.

There was a long gap between brother Jim, aged 27, and brother Tom, aged 12, and this gap had seemingly drawn them closer together. To brother Jim, brother Tom had never seemed the aggravated nuisance that little brothers usually appear in the eyes of older

brothers. Jim had looked with amused tolerance on Tom's wildest pranks, and as for Tom—well, there were few heroes of childish romance that did not suggest his clever big brother. And Tom had been left in Jim's care while the father and not overstrong mother went abroad for the latter's health. It was a hot summer, and Tom was convalescing from a severe case of the measles, and so Jim thought it wise to pack him off to a little village that nestled in the woods of the upper Hudson, where he was sure to receive the best of care at the home of a superannuated bookkeeper of the firm of which James Thornton was the newly admitted junior member. And it was from Bookkeeper Barclay's home that Miss Laura Garman had fairly kidnapped him. True, she wrote a model letter to Jim, in which she requested the loan of his young kinsmen, but before his answer could be received she had him installed at Greycrag and in a position to add his petition to hers.

He was such a delightful boy, she wrote, and he would make the hours at Greycrag seem so much less lonesome. Save for the presence of a maiden aunt she was quite alone there, her father and mother having gone to California to take an invalid sister of the latter. Besides she was sure the altitude of Greycrag was quite certain to hasten the return of Tommy's strength. She hoped this was not taking a liberty, but she had never seen a boy who charmed her quite as much—perhaps because he reminded her of a little brother who had passed away in his seventh year.

What could Brother Jim do? He wrote a qualified acceptance of this letter of invitation. She mustn't tolerate him if he proved to be rude or unmanageable. And he would ask it as a particular favor if she would at once communicate to him any infraction of conduct of which Tom might be guilty. "Being so very much the youngest of the family," he wrote, in conclusion, "I fear that we fail to realize how thoroughly he is spoiled. No doubt you will find this out very soon. The moment you do, kindly return him to Mr. Barclay, to be left until called for."

Miss Laura Garman briefly acknowledged Brother Jim's letters, promising to faithfully abide by all its conditions, and thanking Jim for acceding to her request.

So Brother Tom was ensconced in the Garman household, and, as his many letters set forth, was having the time of his life. At least half of each epistle was given up to this theme, while the other half was devoted to the charms of Miss Laura.

"She's just the one girl for you, Jim," he wrote in one of his daily screeds, for Tom had become quite a letter writer. It may have been brought about by his weakened health and possibly took the place of some more boyish occupation, but it was true that he had Brother Jim hustling in keeping up with the busy correspondent. "You'd make a stunin' couple. Don't think I'm foolin'. Laura likes me so well that I'm pretty sure she would like you too. On my account, corse. Cant you come down for a day or two?"

And Brother Jim, greatly amused, would thank Brother Tom for his kind wishes for his matrimonial welfare, and assure him that it would be quite impossible for him to get away at present.

And then one day the letter with the familiar handwriting was a little bulkier than usual. When he opened the envelope a photograph dropped out. It was a portrait of an unusually pretty girl. Of course, this must be Laura Garman. Brother Jim looked at the portrait long and earnestly. Brother Tom wasn't so far wrong when he praised this gentle-faced girl. Brother Jim placed the photograph on the desk where he could use it as confirmation of Brother Tom's praises, and then picked up the letter.

"I've bin fishing for bullheads in the pool," Brother Tom began, "and cot two—and one cot me. It didn't hurt mutch and Laura tied it up with her handkerchief. Ide know about bullheads horns next time. I am sending you Laura's picture. She don't know

it. I begged it from her yesterday. I want you to get it framed up nice and charge it to pa. Then when she says, 'What did you do with my pictchoor, Tommy?' Ile say I'm gettin' it framed. Can't you come up and see a fellow, Brother Jim? N. b it don't flatter her."

But Brother Jim seemed in no hurry to have the framing contract carried out. The picture lingered on his desk just where he could catch sight of it whenever he chose to look up.

"Dear Brother Tom," he wrote in reply, "I am sorry the bullhead horned you. No doubt if you were a bullhead you would have done the same. I remember having some experience with bullheads myself, but there was no charming young woman's handkerchiefs to bind my wounds. By the way, that portrait you sent to have framed reflects credit on your taste. Miss Laura deserves all your praise. She is a beautiful girl—and I am sure she is as good as she is beautiful."

Two days later Brother Tom's reply was received. It was unusually brief, but to the point.

"Brother Jim," he wrote, "I showed your letter to Miss Laura. My, how she blushed. Say, can't you come up next week. There's going to be a big church picnic. Come sure."

Brother Jim scowled darkly. Then he chuckled. "What a boy! The idea of showing the letter. What must the girl think of the liberty he took? Still, there wasn't anything really rude about it. But he must be more careful when he wrote hereafter."

Then he sent Tom a short note in which he said it would be impossible for him to attend the church picnic.

A few days later Brother Tom wrote in a somewhat melancholy tone. He wasn't feeling quite so well; he guessed he missed his mother—and his father, too, and maybe he was homesick. He wanted to see Brother Jim so much. But if Brother Jim couldn't come, would he send his photograph. It would be some comfort, anyway.

Brother Jim was considerably alarmed over the epistle. This precious young brother musn't have a relapse. That would never do. So he hastily wrote an encouraging note to Brother Tom, in which Brother Tom was advised to cheer up and be a man—and with the note he forwarded his photograph.

The answer came back promptly, and again it was to the point.

"I shode your pictchoor to Miss Laura and she liked it. She made me mad tho when she said you was better looking than me. N. b. I told her it flattered you. Can't you come up Saturday?"

Brother Jim scowled again and laughed again. Really, this scallawag of a youngster wasn't to be trusted with anything. Still, if Miss Garman had any sense of humor she must find him amusing. Then he looked up suddenly at Miss Garman's portrait, and it seemed as if a smile was hovering about the pretty mouth.

And then came another disquieting letter from Tom.

"There's a fellow hanging round here that I don't like," Tom wrote. "It seems Miss Laura met him somewhere and he came to see her cos he found out her father was away. Thats the way it seems to me. He's got snaky eyes and a little black mustash and he lafs a grate deal. I don't reely think that Miss Laura likes him mutch. But he's got such a way of smilin' and sayin' soft things. I'll bet he is no good. He called me a cub the other day and Miss Laura didnt like it. Im going to look after her the best I know how, but I wish I was a little older."

Two days later another disquieting letter reached Brother Jim.

"That fellow is comin' more than ever," Tom informed him. "I think there must be something fassinating about him, cause Miss Laura don't seem able to tell him he ain't wanted here. He is in an awful hurry, too. I gues he is afraid her father will come home unexpected. Ile bet my life he is no good. But there's no use speeking to Miss Laura's aunt. All she thinks about is housekeeping and hired girls. N. b. he called me a cub twice again."

The very next day brought the third disquieting letter.

"We were out riding today," Brother Tom explained, "and I was gettin' in the little seat behind and I guess he didn't know how sharp my ears is. Its like that with measels sumtimes I spose. Anyway I heard a lot that he said, and what do you think? He wants Miss Laura to run away and marry him. You ought to have heard him beg her. Ain't it a shaim? Such a nice girl and nobody to sho her what a mistake she is making. Anyway I know the fellow is afraid of her father, cos he said as mutch—and somebody ought to find out about him rite away cos its Friday nite he wants her to go."

Brother Jim looked at the letter long and earnestly and the frown on his face deepened. Then he pulled a pad of blank telegraph messages from the drawer.

They were waiting for him at the village station; Miss Laura in the pony phaeton and Brother Tom on the platform.

And Brother Tom grabbed him and drew him to the phaeton.

"This is my big brother, Miss Laura," he cried with a tremor of pride, and Brother Jim found himself bundled in beside the pretty girl, while Brother Tom sat up on the little seat behind.

"We have been expecting you so long and so anxiously—at least one of us has," said the pretty girl, with a quick blush, "that it seems quite impossible that you are really here—doesn't it, Tommy?"

"He looks real to me," replied the smiling Brother Tom, as he landed a heavy thump on Brother Jim's shoulder.

And how delightfully pleased this pretty girl seemed! Was it an assumed delight? He looked around at Tommy and caught him grinning.

And what a charming little feast they had, and what a delightful little mistress of the household the fair girl made.

And after dinner Brother Tom drew Brother Jim away from the lovely presence and took him for stroll to the lake.

"Well?" said Brother Tom, as they trudged down the shadowy pathway between the trees.

"Well?" echoed Brother Jim.

"Nice, isn't she?"

"Very nice."

"Did I make it too strong about her?"

"Is this a confidential conversation?" inquired Brother Jim with a short laugh.

"It is," Brother Tom replied.

"And not a word to be repeated to any third party?"

"Not a word."

"Well, then," said Brother Jim, "you didn't make it strong enough."

Whereat Tom landed a heavy blow from a puny fist in the midst of Brother Jim's waistcoat.

"Good old Jimmy!" he cried.

And then it was that Brother Jim put a heavy hand on Brother Tom's shoulder.

"See here," he gruffly said, "where is that black-mustached fellow with the snaky eyes?"

"Oh, I just made him up," said Brother Tom.

And Brother Jim suddenly laughed. —W. R. Rose in Cleveland Plain Dealer.

## Humorous.

A little bird sat on a telegraph wire, And said to his mates, "I declare, If wireless telegraphy comes into vogue We'll have to sit on the air."

Young Dorothy—Oh, mamma! Look at my doll! Why, it is stuffed with breakfast food!

Lunicus—"The man in the moon is a good business man." Punicus—"How so?" Lunicus—"He knows how to change a quarter for a half."

First Citizen—"What do you think of this idea of an army of unemployed marching to Washington?" Second Citizen—"That's nothing new. It happens every four years."



## Concerning Flies.

The common house fly is above all things else a scavenger. No doubt the flies were intended to serve a good purpose by destroying filth and waste, but in their work they are liable to do serious harm, to say nothing of the constant annoyance which they cause. It is believed that flies are effective disseminators of disease germs. Coming, we will suppose, from a heap of offal which contains the germs of typhoid fever, they enter the dwelling house and light upon some article of food. Is it not reasonable to suppose that they may bring with them some of the minute organisms which develop this destructive disease? If the fly could be confined to his proper place, which, as I said in the beginning, is that of a scavenger, he would serve a valuable purpose; but, like some human beings, he may cause much trouble when he goes outside his appointed sphere. The flies should be kept out of the house as completely as possible by closely screening doors and windows. For destroying flies after they once enter the house I recommend the common wire "spatter," which may be bought for a nickel, as safer than placing poison or even fly paper in the room.

The fly forms an interesting study for the scientist. It has been estimated that he can multiply himself 200 times every twenty-four hours. A new-born fly becomes full grown in four or five days. He feeds on both liquids and solids, his favorite foods being perspiration and saliva and the juices of decaying meats and vegetables. He reduces solids to liquids before swallowing them. It is said that a fly is supplied with 7000 eyes, each eye being separate and of peculiar construction. When alarmed he can travel 20 or 30 feet in a second, but he can also fly leisurely. The fly has no lungs, but breathes through pores, protected from dust by fine filmy fibres that look like exquisite lacework. After a series of calculations and experiments, it is thought that the fly is enabled to walk on a vertical glass surface or on a smooth ceiling by what is called capillary force; that is, the molecular action between solids and liquids. The insect's feet are covered with thousands of fine hairs, each of which terminates in a bulb. Through these hairs runs a thin liquid that oozes through in a tiny drop at the end. When several thousands of these drops have been fastened to a window pane or ceiling, the fly is able to walk on the smooth inverted surfaces and has no difficulty in releasing himself instantaneously. This is the theory of Rombout, a French entomologist. It used to be thought that the fly's feet are cup-shaped and that he is enabled to walk on ceilings by the suction caused by the cone-shaped feet. This latter theory was overthrown by putting flies in a vacuum, where they climbed a glass surface as easily as in the open air.—New York Tribune.

## Aphorisms.

There is no index of character so sure as the voice.—Disraeli.

Laughing cheerfulness throws sunlight on all the paths of life.—Richter.

There is no calamity which right words will not begin to redress.—Emerson.

Experience is a keen knife that hurts while it extracts the cataract that blinds.—De Linod.

To forgive a fault in another is more sublime than to be faultless oneself.—George Sand.

Hope is so sweet with its golden wings that at his last sight man still implores it.—De la Pena.

It is a great misfortune not to have enough wit to speak well or not enough judgment to keep silent.—La Bruyere.

It is better to suffer wrong than do it and happier to be sometimes cheated than not to trust.—Samuel Johnson.

"Have you anything to say before we eat you?" said the King of the Cannibal Isles to a Boston missionary. "I have," was the reply. "I want to talk to you awhile on the advantages of a vegetarian diet."

## Hints to Housekeepers.

A little ammonia slightly diluted makes a very nice cleaner for a coat collar.

Many good housekeepers use mutton fat for shortening and frying purposes. It is quite as healthful as any of the fats, and if there be no objection to the taste, there is no reason why it should not be used as freely as other fats.

There are few households where soft soap is not required in the kitchen. The strong fats can be utilized in making this soap—which is a simple matter when the fat is fried and strained as directed. Never wait until the fat has become tainted before frying it out.

A nice sauce for Lima beans, either dried or fresh, is made by taking a quarter of a cup of the beans when cooked and mashing them smooth in the cup; then add butter and one-third of a cup of cream, or milk, or the water the beans were boiled in. Pour all the water off the boiling beans and immediately add this sauce. Stir, and let boil up, then serve.

For a refreshing hot weather salad dice a tomato, a green pepper and a cucumber, dress them with French dressing and serve on lettuce leaves. For variety, stuffed olives, capers or pickled nasturtiums may be added. A salad of raw vegetables is far more appetizing on a sultry day than of cooked vegetables.

The best of all implements for reducing tangled fringe to its normal condition is a stiff brush. The comb too often employed by laundresses for such purposes splits the threads and soon breaks them. Many women keep a horse brush for this use and with it brush blankets as well, when their surfaces become roughened.

Many cooks sear the roast on all sides in a frying pan before putting it into the oven. A better plan, however, is to have the oven at a high temperature before the meat goes in and to allow the meat to cook quickly for ten minutes or until a crust forms on the outside. This incases the juice and insures it against escape. After that the oven should be allowed to come to a lower heat in which the meat will cook slowly. A high temperature affects the albumen of meat as it does that of eggs—makes a horny substance of it.

## Domestic Hints.

**MAYONNAISE DRESSING WITHOUT OIL.**—One-half cup of lemon juice, one-half cup of water, two teaspoonfuls of dry mustard, six whole eggs well beaten, one cup of butter (not melted), one cup of sweet cream, one-half teaspoonful of salt, pinch of cayenne pepper. Heat these ingredients in a double boiler, but do not boil them. When the mixture begins to thicken, take it off the fire, let it cool, and then set it on ice. This dressing will keep a month.

**ICED CHOCOLATE.**—Put two heaping tablespoonfuls of cocoa into a double boiler, and add gradually a pint of water. Cook and stir about five minutes, beat thoroughly, add half a pint of cream whipped lightly and stand aside to cool. When cold, fill a chocolate or sherbet cup one-third full of finely chopped ice and a little powdered sugar, then pour in the chocolate, cap it with a tablespoonful of sweetened whipped cream and serve.

**STUFFED TOMATO SALAD.**—Select perfect fruit with stems on. Remove a slice from stem end, then remove the pulp very carefully and use this to make the gelatine jelly. Fill the shells with chicken, shrimp or cabbage salad; replace tops; drop tomatoes into cups which will leave an inch all around. Simmer the pulp with one pint of water, spices and herbs, salt, paprika, for ten minutes; strain; add two tablespoonfuls of gelatine, softened in little cold water; when dissolved add enough vinegar to suit; place a tablespoonful in bottom of cups; set on ice to become firm; then fill cups and let become firm on ice. When ready to serve, dip into hot water a second and lift out onto beds of cress.

## STATE FAIR OF 1903

AUGUST 31st to SEPTEMBER 12th,  
AT SACRAMENTO, CALIFORNIA.

50th Annual Exposition  
CALIFORNIA'S

—GREAT—

Agricultural, Horticultural and Live Stock Exposition.  
EVERY DAY A GREAT DAY!

PROF. W. L. CARLYLE of the Bureau of Animal Industry of Wisconsin, and PROF. E. W. MAJOR of the Bureau of Animal Industry of the University of California, will judge all classes of Live Stock and deliver instructive lectures on Live Stock Husbandry.  
PROF. H. E. ALVORD, Washington, D. C., Chief of the United States Bureau of Dairy Industry, will be present at the Dairy and Creamery Operators' Convention and address same.

**CATTLE—BEEF AND DAIRY BREEDS.**  
Grand Animals—See Them and Try to Breed Some Like Them.

**DRAFT HORSES, SWINE AND SHEEP.**  
The Pick of the World—Come and See the Highest Types of Farm Animals.

Two Weeks of Running and Harness Racing!

GREATLY INCREASED PREMIUMS.

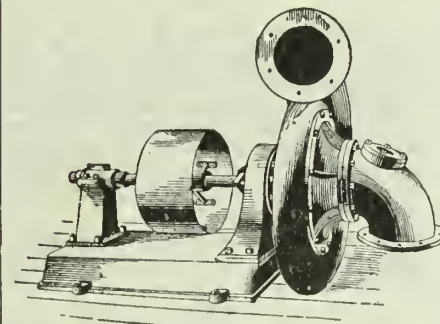
**POULTRY SHOW**—Standard and Fancy Breeds.

**INDUSTRIAL PAVILION DISPLAY**—An Exposition in Itself.

EXHIBITS CARRIED FREE. EXCURSION RATES TO VISITORS.

For Particulars and Premium List, apply to

H. LOWDEN, Acting Secretary, Sacramento, Ca'. B. F. RUSH, President.



**PEERLESS**  
Centrifugal Pumps

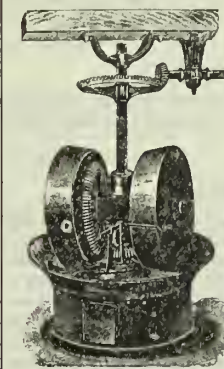
—AND—

**Gasoline Engines**  
FOR ALL PURPOSES.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

**Baker & Hamilton,**  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.



**TOULOUSE & DELORIEUX,**

620-622 COMMERCIAL ST.

SAN FRANCISCO, CAL.

**OLIVE MILLS.**

WINE MACHINERY.

THE LATEST AND BEST.

SEND FOR CATALOGUE.

HAVE YOU SEEN THE  
**Jack of All Trades**

—A GASOLINE ENGINE

of the most modern type for farm use?

Pumps Water—Saws Wood—Runs Separators

Shells Corn—Grinds Feed—Churns Butter

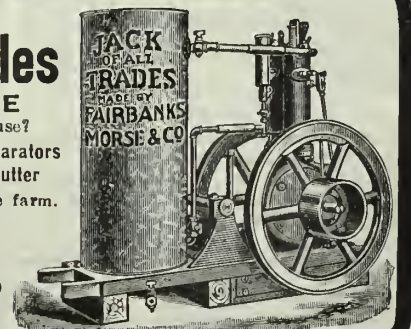
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."

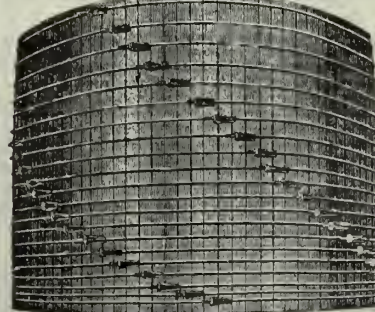
**Fairbanks, Morse & Company,**

San Francisco, Los Angeles,  
Portland, Or.



**OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK**

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**

SOLE MANUFACTURERS,

Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.

**GREENBANK**

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, August 26, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Sept.	Dec.
Wednesday.....	79 1/2 @ 81 1/2	81 @ 82 1/2
Thursday.....	79 1/2 @ 80 1/2	80 1/2 @ 81 1/2
Friday.....	79 1/2 @ 81	80 1/2 @ 82
Saturday.....	80 1/2 @ 79 1/2	81 1/2 @ 80 1/2
Monday.....	79 1/2 @ 80 1/2	81 @ 81 1/2
Tuesday.....	80 1/2 @ 79 1/2	81 1/2 @ 80 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Sept.	Dec.
Wednesday.....	50 1/2 @ 51 1/2	51 1/2 @ 52
Thursday.....	50 1/2 @ 51 1/2	51 1/2 @ 51 1/2
Friday.....	50 1/2 @ 52 1/2	51 1/2 @ 52 1/2
Saturday.....	52 @ 51 1/2	52 1/2 @ 51 1/2
Monday.....	50 1/2 @ 51 1/2	51 @ 51 1/2
Tuesday.....	51 @ 50 1/2	51 1/2 @ 50 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 46 1/2 @ 1 47	— @ —
Friday.....	1 47 1/2 @ 1 46 1/2	— @ —
Saturday.....	1 46 1/2 @ 1 46 1/2	— @ —
Monday.....	1 46 1/2 @ 1 47	— @ —
Tuesday.....	1 47 1/2 @ 1 46 1/2	— @ —
Wednesday.....	1 47 @ 1 47 1/2	— @ —

### WHEAT.

The wheat market in this center continues decidedly unfavorable to the buying interest, but there is not much trading, neither shippers nor millers taking kindly to the prices now ruling. Many holders are either wholly off the market for the time being, or are contending for higher figures than are warranted as quotations, although quotable values are on a comparatively high plane, wheat commanding relatively better prices here than current in the importing countries of Europe. Local values have for some time past ruled much higher than in Chicago, which ordinarily is ahead of San Francisco in the matter of price, owing to the East being nearer to the importing centers and generally having cheaper freight rates. But in the matter of transportation charges outward, San Francisco is at present being highly favored, wheat being carried to Europe on a three months' trip around the Horn for not to exceed \$2.50 per ton, and for less than it costs to transport merchandise coastwise on a four days' voyage. The prophets are talking of \$1 wheat being again a reality in the Chicago market, that is, \$1 per bushel, but Chicago is still considerably under the \$1 mark, while the San Francisco market has been for many months much closer to the figure named than has the market of the windy city of the lakes. As the past has shown some wonderful fluctuations, wheat having ranged in this market inside of two seasons from 80c to \$2.15 per cental, there is such a wide latitude in the possibilities of the future, that anything like a definite forecast cannot be made under existing conditions.

California Milling.....	1 50 @ 1 60
Cal. No. 1 shipping, alongside.....	1 42 1/2 @ 1 45
Oregon Club.....	1 40 @ 1 45
Washington Blue Stem.....	— @ —
Washington Club.....	— @ —
Of qualities wheat.....	— @ —

### PRICES OF FUTURES.

December, 1903, delivery, \$1.46 1/2 @ 1.47 1/2.  
May, 1904, delivery, \$— @ —.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.47 @ 1.47 1/2; May, 1904, \$— @ —.  
Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	65 1/2 @ 65 1/2 d	— s-d @ — s-d
Freight rates.....	24 @ 26 1/2 s	15 1/2 @ 16 1/2 s
Local market.....	\$1 12 1/2 @ 1 15	\$1 42 1/2 @ 1 45

### FLOUR.

Stocks are not heavy and are showing steady reduction, although the movement is not very brisk, either outward or on local account. There are very few mills running, however, as flour has been for some time and still is relatively cheaper than wheat. If supplies of flour continue on the decrease, it is only a question of a short time when prices will be materially higher. Market is now firm at the quotations. Offerings are mainly extras, superfines being so scarce as to be hardly quotable.

Superfine, lower grades.....	\$3 00 @ 3 25
Superfine, good to choice.....	3 35 @ 3 50
Country grades, extras.....	4 00 @ 4 25
Choice and extra choice.....	4 25 @ 4 50
Fancy brands, jobbing.....	4 50 @ 4 75
Oregon, Bakers' extra.....	3 50 @ 4 00
Washington, Bakers' extra.....	3 50 @ 4 15

### BARLEY.

The outward movement of this cereal continues fairly active, and would be much more lively if shippers were able to

secure the barley as fast as needed to give prompt dispatch to the vessels under charter and awaiting cargo. Market shows fully as much strength as at any previous date the current season. Most of the purchasing continues to be done in the interior, and in a good many instances relatively higher prices are being realized at interior points than are justified as wholesale quotations in this center. Much of the barley which has gone outward thus far this season is netting a loss to the shippers, as large quantities were sold ahead in anticipation of a larger crop and much lower values than have resulted.

Feed, No. 1 to choice.....	\$1 08 1/2 @ 1 12 1/2
Feed, fair to good.....	1 05 @ 1 08 1/2
Brewing, No. 1 to choice.....	1 17 1/2 @ 1 22 1/2
Chevalier, No. 1 to choice.....	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair.....	1 12 1/2 @ 1 32 1/2

### OATS.

While there have been no radical changes in quotable values the current week, the tendency has been against the buying interest. Inquiry was fairly active and offerings were by no means heavy, particularly of most desirable qualities. In addition to the demand on local account for the regular trade, the Government was in the market for large quantities to be shipped to the army in the Philippines.

White Oats, fancy feed.....	1 32 1/2 @ —
White, good to choice.....	1 25 @ 1 30
White, poor to fair.....	1 20 @ 1 22 1/2
Gray, common to choice.....	— @ —
Milling.....	1 25 @ 1 30
Surprise, good to choice.....	— @ —
Black Russian feed.....	1 15 @ 1 25
Black for seed.....	1 35 @ 1 45
Red, fair to choice.....	1 15 @ 1 35

### CORN.

Although the Eastern product is again on the market in quotable quantity, and domestic is in a little better supply than for some months past, prices remain at high levels, and nothing to indicate that there will be any great weakness developed very soon. Stocks are mostly Large Yellow and White, the market being almost bare of Small Yellow, either flat or round.

Large White, good to choice.....	1 55 @ 1 57 1/2
Large Yellow.....	1 57 1/2 @ 1 62 1/2
Small Yellow.....	1 70 @ 1 80
Eastern, in bulk.....	1 40 @ 1 45

### RYE.

Demand is not brisk at prevailing values, but stocks are of light volume, and there is almost an entire absence of selling pressure.

Good to choice, new..... 1 30 @ 1 25

### BUCKWHEAT.

Supplies of this cereal are quite small and in few hands. Market is decidedly firm.

Good to choice..... 2 00 @ 2 50

### BEANS.

The market is rather quiet, and is not displaying any special firmness. This is not unusual for the end of the season, although contrary to the expectations of many holders. Some beans which have been carried through the season, more particularly Large Whites, are now selling for less than was paid for them ten months ago. Eastern markets are lightly stocked with all descriptions, but buyers are operating only in a hand-to-mouth way, awaiting offerings of new crop. Quotations for most varieties show moderate reduction, and to sell freely these figures would have to be shaded to buyers.

Pea, fair to good, 100 lbs.....	3 25 @ 3 40
Small White, good to choice.....	3 00 @ 3 10
Large White.....	2 75 @ 2 90
Pinks.....	2 90 @ 3 00
Bayos, good to choice.....	3 40 @ 3 50
Reds.....	2 90 @ 3 00
Red Kidney.....	— @ —
Limas, good to choice.....	3 25 @ 3 40
Black-eye Beans.....	2 75 @ 3 00
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Trading is of light volume, as much due to limited spot supplies as to absence of active inquiry. Where transfers are effected they are mainly at full current figures, especially where the quality is No. 1 to choice.

Green Peas, California.....	1 65 @ 1 75
Niles Peas.....	2 25 @ —

### HOPS.

Local market is lightly stocked and presents a firm tone. Indications are that not many old hops will be carried into the new season. New to arrive are not being offered freely and are not obtainable at any lower figures than have been lately quoted for 1902 product. A New York authority summarizes as follows concerning hops: "The market has worked into a very much stronger position on all useful grades. Offerings have shortened up so much that brewers and dealers who have wanted stock for current needs have had much difficulty in finding it. Holders of the remaining lots feel so confident of the situation that they are asking an advance of 1c @ 2c per pound, and the higher prices have been realized for both State and

Pacific coast hops. The whole sentiment seems to have changed both here and in the interior and it looks as if the 1902 crop will go out clean and at higher figures than operators had calculated on. The few transactions reported toward the close have been on the basis of 22 @ 23c for prime to choice, with other qualities ranging down about as quoted. Yearlings have shared somewhat in the improvement, and old olds are steadier. Latest advices from the Pacific coast report sales at 20 @ 20 1/2c. In both Oregon and California the crop is said to be improving. In New York State the yards are irregular, and the appearance of lice, with continued wet weather, have cut down the estimates of the crop to 50,000 bales. Cables from London say the yards do not look so well and give 400,000 cwt. as the probable yield. Estimates of German crop are also cut down."

California, good to choice, 1903 crop..... 18 @ 21

### WOOL.

There is no evidence of anything of consequence doing in this center, but this is because operators see fit to do most of their purchasing in the interior, under the impression that they thus can operate to better advantage. Stocks of wool are light in all manufacturing centers, and it is altogether probable that the Fall clip now being gathered will speedily pass out of first hands and at comparatively good figures. The steamer Barracouta, sailing on 22d inst, carried 111,399 pounds wool for New York.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Mountain free.....	10 @ 13
San Joaquin Plains.....	8 @ 11
Nevada.....	12 @ 16

### HAY.

Most of the current crop in the sections tributary to this market has been bought up, and it is coming forward as rapidly as transportation facilities will admit, owners wishing to get stocks housed before rains set in. Owing to heavy quantities arriving, the market for other than choice to select is not especially firm at the values established, but the impression is current that stiffer prices will rule later on.

Wheat, good to choice.....	10 50 @ 14 50
Wheat and Oat.....	10 00 @ 13 00
Oat, fair to choice.....	8 50 @ 12 50
Barley.....	8 00 @ 11 50
Clover.....	9 00 @ 10 00
Alfalfa.....	8 50 @ 11 50
Stock Hay.....	8 00 @ 9 00
Compressed.....	11 00 @ 14 50
Straw, 1/2 bale.....	50 @ 65

### MILLSTUFFS.

There are fair receipts of Bran and Middlings from the North, but very little is being produced at present by the local mills. Former values are being maintained, but market is not noteworthy for strength. Rolled Barley was more firmly held. Quotable values for Milled Corn were marked down \$1 per ton.

Bran, 1/2 ton.....	23 50 @ 25 00
Middlings.....	26 10 @ 28 00
Shorts, Oregon.....	22 50 @ 24 00
Barley, Rolled.....	23 00 @ 24 00
Cornmeal.....	33 00 @ 34 00
Cracked Corn.....	33 50 @ 34 50

### SEEDS.

The movement in the several kinds quoted herewith is at present mainly of a light jobbing character and at generally unchanged figures. Market is not being burdened with stocks of desirable quality of any variety.

	Per ctt.
Alfalfa, Utah.....	— @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 25 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25
	Per lb.
Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/2
Hemp.....	3 1/2 @ 4

### HONEY.

Comb is in fair request and market firm, dealers having trouble in filling all orders. Especially is it difficult to secure carload lots of big and uniform grade. Extracted is offering in moderate quantity, with demand for same not very brisk at prevailing values, but it is the exception where any undue pressure to realize is being exerted.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	5 @ 5 1/2
Extracted, Amber.....	4 1/2 @ 5
Extracted, Dark Amber.....	4 @ 4 1/2
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	— @ —

### BEE SWAX.

Not much on the market and no probability of there being any special accumulations the current season.

Good to choice, light 1/2 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Prices for Beef remain about as last quoted, with demand only fair, but not below the average for this time of year. Not much Veal arriving and desirable

stock meets with tolerably prompt custom at the prices ruling. Market for Mutton was quiet and easier, but no disposition shown to crowd offerings to sale at very marked concessions. Lamb was in light supply and in prime condition was readily placed at full current rates. Hogs were in tolerably free receipt, and while the market could not be termed firm, values were maintained at about same quotable range last noted, except for small, which were in excessive supply.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	6 @ —
Beef, 3rd quality.....	4 @ 5
Mutton—ewes, 7 1/2 @ — c; wethers.....	8 @ —
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 6
Hogs, large hard, over 250 lbs.....	5 1/2 @ 6
Hogs, small, fat.....	5 1/2 @ 5 1/2
Veal, small, 1/2 lb.....	9 @ 10
Lamb, Spring, 1/2 lb.....	9 @ 10

### HIDES, BELTS AND TALLOW.

Business in this department is not particularly brisk, and the market cannot be termed firm, but there are no changes to record in quotations, current values being fairly well maintained.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 50 lbs.....	— @ 10	— @ 9
Medium Steers, 48 to 55 lbs.....	— @ 9	— @ 8
Light Steers, under 48 lbs.....	8 @ —	7 @ —
Heavy Cow Hides, over 50 lbs.....	8 @ —	7 @ —
Light Cow Hides, under 50 lbs.....	8 @ —	7 @ —
Stags.....	— @ 8	— @ 5
Wet Salted Kip.....	— @ 9	— @ 8
Wet Salted Veal.....	— @ 9 1/2	— @ 8 1/2
Wet Salted Calf.....	— @ 10 1/2	— @ 9 1/2
Dry Hides.....	— @ 16	— @ 15
Dry Kip and Veal, 11 to 16 lbs.....	— @ 13 1/2	— @ 13 1/2
Dry Calf, under 4 lbs.....	— @ 19	— @ 17
Pelts, long wool, 1/2 skin.....	1 00 @ 1 50	— @ —
Pelts, medium, 1/2 skin.....	70 @ 90	— @ —
Pelts, short wool, 1/2 skin.....	40 @ 65	— @ —
Pelts, shearing, 1/2 skin.....	15 @ 30	— @ —
Horse Hides, salted, large prime, each.....	2 75	— @ —
Horse Hides, salted, medium.....	2 50	— @ —
Horse Hides, salted, small.....	2 00	— @ —
Horse Hides, dry, large.....	1 75	— @ —
Horse Hides, dry, medium.....	1 50	— @ —
Horse Hides, dry, small.....	1 25	— @ —
Tallow, good quality.....	4 1/2 @ —	— @ —
Tallow, poorer grades.....	3 1/2 @ 4	— @ —

### BAGS AND BAGGING.

Nothing of consequence doing in spot Grain Bags and no talk of futures. Prices here are relatively lower than in Calcutta. Business in Fruit Sacks is of fair volume and no changes to record in prices of same. Wool Bags are receiving a little attention on account of Fall clip and no scarcity of supplies.

Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x30, spot.....	5 @ 5 1/2
Grain Bags, Calcutta, buyer June-July.....	— @ —
Grain Bags, San Quentin, in lots of 2,000, 1/2 101.....	5 55 @ —
Wool Sacks, 4-lb.....	32 @ —
Wool Sacks, 3 1/2-lb.....	30 @ —

### POULTRY.

The heavy stocks carried over from previous week have seriously handicapped the market, but there is a somewhat better tone than at close of last review. Arrivals the current week were of more moderate volume, but at the same time proved sufficient, in connection with carry-over supplies, to keep prices at a rather low range. Late receipts from the East included a large proportion of young fowls.

Hens, California, 1/2 dozen.....	4 50 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	5 00 @ 6 00
Fryers.....	3 50 @ 4 50
Broilers, large.....	2 50 @ 3 50
Broilers, small to medium.....	2 00 @ 2 50
Ducks, old, 1/2 dozen.....	3 00 @ 4 00
Ducks, young, 1/2 dozen.....	3 50 @ 4 50
Geese, 1/2 pair.....	1 25 @ 1 50
Goslings, 1/2 pair.....	1 80 @ 1 75
Pigeons, old, 1/2 dozen.....	1 50 @ —
Pigeons, young.....	1 50 @ 1 75

### BUTTER.

While there is not much fresh arriving and no large proportion of the offerings are choice to select, the advanced figures asked have checked the demand, throwing a considerable percentage of trade on to local and Eastern cold storage stocks, more particularly the latter, owing to prices for the same being lower than for domestic product.

Creamery, extras, 1/2 lb.....	28 @ —
Creamery, firsts.....	27 @ 27
Dairy, select.....	26 @ 27
Dairy, firsts.....	25 @ 26
Dairy, seconds.....	23 @ 24
Firkin, good to choice.....	— @ —
Mixed Store.....	18 @ 19
Pickled Roll.....	— @ —

### CHEESE.

Market is fairly well stocked with flats, and is slow at the quotations, especially for other than mild-flavored new of select quality. Small cheese are not plentiful, neither are many required to satisfy the demand at full current figures. Eastern cheese is in fair supply.

California, fancy flat, new.....	13 @ —
California, good to choice.....	12 @ 13 1/2
California, "Young Americas".....	13 1/2 @ 14 1/2
Eastern.....	13 1/2 @ 15 1/2



## EGGS.

Market for choice to select fresh is showing decided firmness, there being only very moderate arrivals of this description, and not likely to be any special accumulations for some time to come. Dealers are running largely on Eastern and local cold storage holdings. Tendency on values of Eastern has been upward, but they are still offering at quite reasonable figures, as compared with prices prevailing for other stock.

California, select, large, white and fresh.	30 @
California, select, irregular color & size.	24 @
California, good to choice store.	20 @
Eastern.	18 @

## VEGETABLES.

The general drift of the market was in favor of the buying interest, most varieties in season being well represented. Tomatoes were in increased receipt, but were largely either green or over-ripe, some lots showing a mixture of both sorts. These went at reduced figures, and then failed to clean up promptly. Choice tomatoes were not in heavy stock, nor is the market likely to be burdened with this kind the current season. Onions were in larger supply than was warranted by the immediate demand and market was easy in tone, with quotations at a slightly lower range than last noted. Choice Green Corn was not plentiful and brought comparatively good figures, but common qualities were in tolerably free receipt and were not eagerly sought after. Cucumbers, Peppers, String and Lima Beans were all plentiful and went at generally low prices.

Asparagus, per box.	— @ —
Beans, Lima, per box.	1 1/2 @ 3
Beans, String, per lb.	1 1/2 @ 3
Cabbage, choice garden, per 100 lbs.	75 @ 1 00
Corn, Green, per crate.	1 25 @ 2 00
Corn, Green, per sack.	75 @ 1 50
Cucumbers, per large box.	35 @ 60
Egg Plant, per box.	40 @ 60
Garlic, per lb.	2 @ 3
Mushrooms, per lb.	— @ —
Onions, Yellow Danver, per ct.	60 @ 70
Onions, new Red, per sack.	— @ —
Okra, Green, per small box.	30 @ 50
Peas, Sweet Garden, per lb.	3 @ 3 1/2
Peas, good to choice, per sack.	— @ —
Peppers, Green Chile, per box.	25 @ 40
Peppers, Bell, per box.	30 @ 50
Rhubarb, per box.	— @ —
Summer Squash, per large box.	35 @ 50
Tomatoes, Bay, per large box.	75 @ 1 25

## POTATOES.

There were heavy receipts during a large portion of the week, as compared with the demand, and the market declined, being not only lower but decidedly slow for common qualities. Many of the potatoes were forwarded unripe, especially from the Sacramento river, by Japs and Chinese, who were crowding stock to market to take advantage of the rather high prices which had been ruling. That market will long remain weak is not thought probable. Sweet potatoes were also in increased supply and sold at a decline.

Sacramento River Burbanks.	75 @ 1 25
Salinas Burbanks, per cental.	1 60 @ 1 75
River Reds, per ct.	— @ —
Garnet Chile.	90 @ 1 15
Early Rose.	90 @ 1 10
Potatoes in boxes, per cental.	1 00 @ 1 50
Sweets.	2 00 @ 2 50

## The Fruit Market.

## FRESH FRUITS.

While the market for fresh fruits was hardly so active as preceding week, there was a very fair demand from shippers and consumers for desirable qualities of most varieties. Canners did not purchase very heavily, being supplied mainly through deliveries on contracts, for which higher prices were as a rule being paid than were bid in the open market. Bids of canners on Peaches ranged from \$15 to \$30 per ton, as to variety and condition, but the quality had to be decidedly choice to command the latter figure in a regular way from wholesale operators. The canning trade was not so eager after Bartlett Pears as preceding week, still there was no glut of choice to select, but liberal quantities of ordinary and defective stock. Plums by the ton sold at a wide range, owing to great difference in size and quality, being quoted from \$12.50 to \$25 in bulk by the wholesale trade, and only for large and sound of most favorite varieties did the market display any special firmness. Apples were in heavy supply, with few of high grade, and for other than select 4-tier stock the market was dull and weak. Flgs of second crop were in moderate receipt and market for this fruit was easier than last quoted. Grapes were in somewhat better supply than preceding week, but choice table varieties were in tolerably good request, selling at fair advantage. Wine Grapes are beginning to come forward, selling mostly at \$24 and \$25 per ton for prime Zinfandels, the Italians being the principal buyers. Berries were not in large supply and offerings included few of superior quality. Watermelons sold to slightly better advantage than previous week, the weather being more favorable. Cantaloupes and Nutmeg Melons

continued to be offered quite freely and prices averaged low.

Apples, fancy, per 4-tier box.	1 00 @ 1 15
Apples, good to choice, per 50-box.	75 @ 1 00
Apples, common to fair, per 50-box.	30 @ 65
Blackberries, per chest.	2 50 @ 4 00
Cantaloupes, per crate.	40 @ 1 00
Cranapples, per small box.	30 @ 65
Flgs, Black, 2 layer, per box.	75 @ 1 25
Flgs, Black, 1 layer, per box.	— @ —
Flgs, White, per box.	35 @ 60
Gooseberries, common, per lb.	— @ —
Gooseberries, English, per lb.	— @ —
Grapes, Fontainebleau, per crate.	30 @ 60
Grapes, Seedless Sultan, per crate.	40 @ 75
Grapes, Tokay, per crate.	50 @ 75
Grapes, Zinfandel, per ton.	34 00 @ 36 00
Loganberries, per chest.	— @ —
Nectarines, per box.	— @ —
Nutmeg Melons, per box.	25 @ 50
Peaches, per box.	40 @ 75
Peaches, good to choice cing, per ton.	20 00 @ 30 00
Peaches, good to choice freestone, ton.	20 00 @ 25 00
Pears, Bartlett, per box.	70 @ 1 15
Pears, other varieties, per box.	40 @ 75
Pears, No. 1 Bartlett, per ton.	30 00 @ 35 00
Pears, No. 2 Bartlett, per ton.	10 00 @ 15 00
Plums, good to choice, per box.	30 @ 60
Plums, Large Green, per ton.	15 00 @ 25 00
Raspberries, per chest.	7 00 @ 9 00
Strawberries, Longworth, per chest.	— @ —
Strawberries, Melinda, per chest.	3 00 @ 5 00
Watermelons, per 100.	7 00 @ 20 00
Whortleberries, per lb.	6 @ 8

## DRIED FRUITS.

While there are evidences of considerable activity in cured and evaporated fruits in the interior, more particularly in Apricots and Peaches, there does not appear to be much doing here, wholesale handlers claiming that asking prices are in the main higher than they feel justified in paying. Firmness appears to be the most pronounced on Apricots, and it looks as though most of the crop had already passed out of first hands, there being few offering at present outside of the product of the Santa Clara and Sonoma valleys. Prices are if anything firmer than a week ago, although the improvement is not sufficiently pronounced to warrant any special change in quotations. Although Peaches of last crop are still in evidence in considerable quantity, new are receiving the preference at higher figures than are quotable for old. Early deliveries of good to select Peaches are quoted at 5 1/2 @ 6 1/2 in carload lots at primary points. New Nectarines are offering in carload lots for future delivery at 4 @ 6, as to variety and quality, the lower figure being for red. Pears promise to be scarce and high, asking figures ranging from 5 @ 10, as to quality, with few common obtainable at inside figure and not many choice salable at this date at top price named, although holders are confident a stiffer market will be experienced later on. Apples are ruling quiet here at 4 @ 5 1/2 for standard to choice new evaporated in boxes, with recent tendency in Eastern markets to more ease. In new crop Plums not much has yet been done, and not many have been offered up to date. Growers continue stiff in their views on new Prunes. Buyers are bidding 3c for new Santa Clara fours, but are not obtaining any fruit, and it is doubtful if much could be secured on the 3 1/2c basis for the four sizes.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4 1/2 @ 5
Apples, extra choice to fancy, 50-lb box.	5 @ 5 1/2
Apricots, Moorpark.	8 @ 11
Apricots, Royal, good to choice, per lb.	7 @ 8
Apricots, Royal, fancy.	8 1/2 @ 9
Flgs, 10-lb. box, 1-lb cartons.	60 @ 75
Nectarines, per lb.	4 @ 5
Peaches, unpeeled, fair to good.	3 1/2 @ 4 1/2
Peaches, unpeeled, choice.	5 @ 5 1/2
Peaches, unpeeled, fancy.	5 1/2 @ 6
Peaches, unpeeled, extra fancy.	7 1/2 @ 9
Pears, halves, fancy.	8 @ 9
Pears, halves, choice.	5 1/2 @ 6
Pears, halves, fair to good.	4 1/2 @ 5
Plums, Black, pitted.	4 1/2 @ 5
Plums, Red and Yellow.	5 @ 5 1/2
Prunes, Silver, good to fancy.	4 @ 5 1/2
Prunes, in bags, 4 sizes, 2 1/2 @ 2 3/4; 40-50s, 5 1/2 @ 5 3/4; 50-60s, 4 1/2 @ 4 3/4; 60-70s, 3 @ 3 1/2; 70-80s, 2 1/2 @ 2 3/4; 80-90s, 2 @ 2 1/2; 90-100s, 1 1/2 @ 1 3/4; small, 1 @ 1 1/4.	

## COMMON SUN-DRIED.

Apples, sliced.	3 1/2 @ 3 3/4
-----------------	---------------

Apples, quartered.	3 1/2 @ 3 3/4
Flgs, White, in bulk.	— @ —
Flgs, Black, in sacks, per lb.	2 1/2 @ 3 1/2
Plums, unpitted, per lb.	1 1/2 @ 2

## RAISINS.

Small quantities of 1902 product are coming forward, mainly from sections producing only lightly and having no special reputation in the raisin trade. Business at present in this line is of an exceedingly light order, and values are poorly defined. No changes are reported in quotations, but they are almost wholly nominal at this date.

Prices at common shipping points, crop of 1902: 2-crown London Layers, 20-lb. boxes, \$1.05 per box; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Dehesas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, per lb., 4-crown, 5 1/2c; 3-crown, 5 1/4c; 2-crown, 5 1/2c.

## CITRUS FRUIT.

In Oranges there is little doing, offerings being light as is also the demand. A few Late Valencias are offering at practically the same range of prices as has been current for several weeks past. There has been a fair trade in Lemons, but supplies proved ample for the requirements, and prices were without quotable change. Demand was mainly for choice, and only for this sort were current values well maintained. Limes were in fairly liberal supply and market was easy in tone, the quotable ranges of prices remaining as last noted.

Oranges, Washington Navel, per box.	— @ —
Oranges, Valencias, per box.	1 00 @ 3 00
Oranges, Mediterranean Sweets.	— @ —
Oranges, Seedlings.	— @ —
Lemons, California, select, per box.	2 50 @
Lemons, California, good to choice.	1 75 @ 2 25
Lemons, California, fair to good.	75 @ 1 75
Grape Fruit, per box.	1 00 @ 2 00
Limes, Mexican, per box.	3 75 @ 4 50

## NUTS.

Most of the Almond crop has been disposed of, not only by growers, but wholesale distributors have already placed the greater portion of their holdings. The market shows healthy condition, values ruling steady. In new crop Walnuts nothing has yet been done beyond contracting to take certain quantities at prices hereafter to be fixed, and the talk is that the best will be held at 12c, although foreign nuts are offering for less money, but the quality is not so fine.

California Almonds, shelled.	15 @ 18
California Almonds, paper shell.	9 1/2 @ 11
California Almonds, soft shell.	7 @ 8
California Almonds, hard shell.	5 @ 5 1/2
Peanuts, fair to prime.	4 1/2 @ 5 1/2
Peanuts, Eastern, hand-picked.	5 1/2 @ 6 1/2
Walnuts, White, soft shell.	— @ —
Walnuts, White, standard.	— @ —

## WINE.

Scarcely anything doing in the wine market in a wholesale way. Dry wines of last year's vintage remain quotable at 15 @ 18c per gallon, but prices are largely nominal, and top figure is based mainly on asking rates, being obtainable only in a small way at this date. Some early San Francisco deliveries of wine grapes have been placed at \$24 @ 26 per ton, as to quality, but wholesale handlers have not yet named prices. The Wholesale Dealers' Association is willing to contract for deliveries, the price to be fixed later on, and it is now reported will not likely exceed \$20 per ton from that organization. The steamer Barracouta, sailing on the 22d inst., carried 71,314 gallons and 34 cases wine, including 67,404 gallons for New York. Receipts of wine at San Francisco last week were 229,420 gallons, and for preceding week were 282,625 gallons.

Telephone Main 199.  
**Blake, Moffitt & Towne.**  
DEALERS IN PAPER,  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, MCFALL & CO., Portland, Or.

## Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/2 sks.	155,244	854,177
Wheat, ctls.	46,172	298,808
Barley, ctls.	104,784	815,141
Oats, ctls.	40,048	171,657
Corn, ctls.	5,122	14,327
Rye, ctls.	2,362	11,292
Beans, sks.	2,305	16,195
Potatoes, sks.	26,788	165,330
Onions, sks.	4,264	24,898
Hay, tons.	5,710	37,565
Wool, hales.	2,042	8,979
Hops, hales.	130	1,137

## EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/2 sks.	123,320	504,156
Wheat, ctls.	218	78,782
Barley, ctls.	77,911	491,270
Oats, ctls.	683	5,059
Corn, ctls.	8	2,716
Beans, sks.	429	3,182
Hay, bales.	1,862	25,561
Wool, lbs.	—	882,461
Hops, lbs.	4,797	55,265
Honey, cases.	2	66
Potatoes, pkgs.	2,160	13,546

## MALTHOID ROOFING



Made of felt, thoroughly saturated with P&B compound. Not impaired by varying temperatures. Does not evaporate, crack, expand or contract. A low priced roofing that cannot be equalled. Send for booklet.

The Paraffine Paint Co.



5 San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through Dewey, Strong & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

## DEWEY, STRONG &amp; CO.

(ESTABLISHED 1860.)

PATENT AGENTS,

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.

## Why Use Expensive Power?

PUMP, SPRAY, SAW WOOD, CUT FEED, CHURN, and do any other work better and cheaper with a

## 20th CENTURY WONDER

than you have ever done before.

USES FUEL AT 2c. TO 5c. PER GAL. 1 1/2 TO 30 H. P. SIZES.

WRITE AT ONCE.

WONDER ENGINE CO, 321 Mission St., San Francisco.

## AN AUTOMOBILE

IS WHAT YOU WANT.

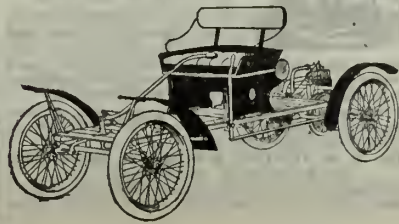
Practical, Economical, Up-to-Date and Stylish.

WE HAVE THEM NEW AT \$450 (Sss Cut).

SOME GREAT BARGAINS \$350 UP.

MOTOR VEHICLE CO.,

A. C. Wheelock, Mgr. 1814 Market St., San Francisco.



3-HORSE POWER  
Webster Gasoline Engine.  
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY. SEND FOR CATALOGUE.  
WOODIN & LITTLE,  
312 Market St. San Francisco, Cal.



**SHARPLES TUBULAR FARM CREAM Separators**



New style, improved separator, made exclusively by us—The Tubular. Old style, complicated separators, made by everybody else—the Bucket Bowl machines.

**The Tubular**

Is worth fifty per cent more than the others as we can show you. If we can't we don't want you to buy. Write for free catalogue No. 131.

The Sharple Co., Chicago, Ill.  
P. M. Sharple, West Chester, Pa.

## ENTOMOLOGICAL.

### Fumigation or Distillate Spray.

By R. C. ALLEN, of Bonita, San Diego county, at the University Farmers' Institute at Long Beach.

Both these methods of coping with the scale pest are valuable, and the circumstances of the case will determine which is the proper one to use. It is not necessary to choose between an evil and a good, but between a good and a better, whichever way one may chance to think. Experience has not, perhaps, even yet gone far enough to say in every given case which is the better remedy.

**FUMIGATION.**—Fumigation, properly done, is a very perfect and satisfactory method where the hatch or scale is even and all can be caught by one operation; where the hatch is uneven it is likely to prove too expensive. Not many growers will feel that they can stand two operations each year.

For some eight years I relied almost entirely on fumigation and generally with satisfactory results. Starting when the trees were young, it appeared to be an easy matter to keep the scale in subjection and I was encouraged to believe that an annual fumigation would keep trees and fruit commercially clean. The orchard, however, being in the coast district, found the scale gradually encroaching on me, and at last reached the point where at least two fumigations each year would be necessary. I came to the conclusion that the business would not stand it and that, even if it would, there was no sense in throwing away money, if something else would give equally good results more cheaply.

I experimented with distillate emulsion, but found it uneven in its results both as to effectiveness and as to spotting the fruit. Then came the new process with distillate spray. After one year's experience with this I can say unhesitatingly that even a single application gave me better results than a single fumigation ever did and at only one-third the cost. Fumigation within its area of effectiveness ought and probably does kill a greater percentage of the scale on a tree than the distillate spray will; yet its range is not so great as the distillate, for the latter will kill some scale at all stages and is especially destructive of the young and eggs at the hatching period. It is true that the gas will kill the young where the shell has begun to life, but it cannot penetrate the egg. I tested this point very thoroughly once with both black and purple scales. Enough gas was used to singe the foliage. The scale was in the process of hatching and the old shells literally full of life. After the tents came off I examined specimens daily under a compound microscope. Each scale was a perfect shamble with the corpses of the young mixed in with the unhatched eggs. Up to the tenth day no new life appeared and I began to hope we had made a clean sweep; but on that day the eggs began to hatch and we soon had enough young scale to stock the orchard; and another fumigation would have been required for satisfactory and thorough work.

The action of the distillate is differ-

ent. Its oily nature assists it to work its way under the edges of the scale, and once there it is good-by to both young and egg. There is nothing left to tell the tale. Taking into consideration the greater range in the life of the scale in which the distillate can do its work, I believe that this spray will kill a greater percentage than fumigation will where the hatches are badly mixed, although, as said above, if the scale is of one stage—and that the right one to treat—the latter will kill more, owing to its greater perfection of application.

Looked at from this standpoint fumigation is likely to find its advocates in the interior, spraying near the coast.

There are other points to consider. The distillate spray is particularly satisfactory with lemon trees. It does not mark the fruit—as the emulsion sometimes did—even in least degree. Indeed, if anything, it gives the lemons a more glossy and attractive appearance. There is nothing sticky or gummy about it, as with some other sprays. The lemon tree will stand a stronger mixture than will the orange or the grapefruit. As with fumigation, the work should always be done while the trees are in vigorous condition, and especially should care be taken not to do the work when they are dry.

I cannot see that the distillate—used in the right proportions and properly applied—does any injury to a healthy, vigorous tree. A 3% mixture seems about right for lemon trees and 2% or 2½% for oranges and grapefruit. There may sometimes be a slight defoliation, but this is no more serious than the tipping back of tender shoots with fumigation. In such a case the leaves which fall are those which would have dropped in the course of nature and have already ceased to perform any function. If the loss of leaves is serious, it shows either bad work or a condition of the tree such that it should not be treated.

It may show that an improper material has been used, for not all of the distillate put up as tree spray is fit to use. To illustrate: After satisfying myself that this process was all right, I recommended it to some of my neighbors, telling them the proper material to use. With some surprise I learned afterwards that they did not find the result satisfactory. They said their fruit was burned and the leaves fell off badly. On investigating I discovered that instead of using the material I recommended they had used something different because it was easier to get. They were inclined to condemn the process, but I claim they never tried it and therefore are not qualified to have an opinion, so far as their own experience goes. If a physician were to give me a prescription one ingredient of which must be obtained from San Francisco and I concluded, because it is easier, to let a San Diego druggist put up the next best thing he has, I cannot complain if the medicine disagrees with me or fails to do good. The merit of the distillate spray has been so abundantly proved that failure must be laid at the door of the man doing the work. With a good machine, the right material and careful application the result is certain. The large orchardist should own his machine and smaller ones should club together to buy one, so that the work shall be done by parties in interest.

My experience in dealing with scale has been confined wholly to the coast district near San Diego, and I do not undertake to say what process I should use if my orchard were in the interior. With us we have to fight not only the black scale, but the purple, the yellow and the lemon peel; and not only the scale, but the mites, red, yellow and silver. A chief cause in deciding me to change from fumigation to distillate spray was the fact that the former has no effect on the mites. As long as I fumigated I was always troubled with red and yellow spiders. They are a serious drain on the vitality of the tree, but when one has paid his bill for fumigation the limp condition of the purse is such as to discourage further efforts. Therefore I put up with the spiders as best I could. When, however, the silver mite turned up something had to be

done. He is a great incentive to prompt action.

Now I find that the distillate spray is effective with not only the scale, but the mites; not only the red and yellow spider, but the silver mite, more to be dreaded than any other pest, for it wholly ruins the fruit and seriously injures the tree.

So far I have considered the distillate spray chiefly in its relation to lemon orchards in the coast district. For them it is an unqualified success, and will, I think, be the accepted remedy for scale pest and mites until something better is discovered. Taking into consideration its cheapness as compared with fumigation, I should expect to see it the favorite for lemon trees in all sections.

Speaking of a possible better remedy leads me to mention the work of two species of rhizobius, one preying upon black scale and the other upon purple, in the orchards of the San Diego Fruit Co. at Chula Vista. A considerable acreage of lemon trees—100 or 200 acres at least—has been thoroughly cleaned of both kinds of scale. These trees a year or so ago were badly infested and the work of these predaceous insects is by far the most remarkable I have ever seen in citrus orchards and give great encouragement for the future. Unfortunately in order to get these ladybirds to take hold it appears necessary to let the scale have its own way until the trees are well covered, it would seem that not much can be expected until the second year after treatment by spray or fumigation. Of course if our orchard is fairly clean we hesitate to let it go and have at least one year of hopeless dirty fruit to handle—certainly unless the outcome is absolutely assured. Also where there are several pests to fight it is expecting a great deal that an enemy will be found for each, reliable for prompt and effective work. In my locality, for instance, I fear the silver mite alone will require an annual spraying, even if all scales should cease to exist.

In regard to the use of distillate spray on orange trees I have not had enough experience to speak with confidence. As they require a milder dose it is evident that in so far the result will be less satisfactory than with lemons. If the hatch of scale is uniform and we are dealing with one variety only—say the black—I believe that fumigation will give the better results because under such circumstances one operation ought to do for two seasons. On the other hand if we are dealing with several varieties of scale, or the hatches are uneven, it is likely that the cheapness of the distillate spray will more than offset any advantage that fumigation has. In fact the great expense of fumigation is only justified, even with orange trees, when there is fair prospect of making a clean sweep, and thus spreading this expense over two or more seasons. In the work that I have done with oranges and grapefruit the spotting has been scarcely noticeable and not enough to injure the marketable qualities of the fruit.

To conclude, whatever further experience may show with regard to the value of distillate in the interior country and in cleaning orange orchards, we already have abundant testimony that to the lemon industry of the coast districts it is a valuable friend which has removed an obstacle that seemed to threaten its very life.

## HORSE COLIC,



Distemper, Founder, Pneumonia, etc., as well as all forms of Lameness, Contracted Cord, Curb, Splint, etc., are instantly relieved, and invariably cured by the use of

### Tuttle's Elixir.

Satisfaction guaranteed or money refunded. Used and endorsed by the Adams Express Company. Used by leading breeders and turfmen everywhere. Has saved and cured many valuable horses. May do likewise for you.

TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience" FREE. Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass. 437 O'Farrell St., San Francisco, Cal. Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all bilsters; they offer only temporary relief, if any.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS

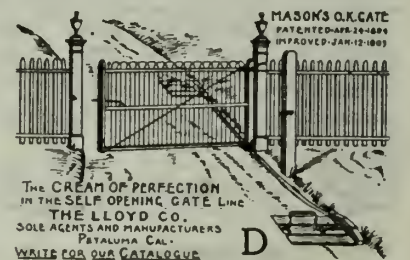
## CUTTER'S BLACK LEG VACCINE.

Write for BLACK LEG booklet.

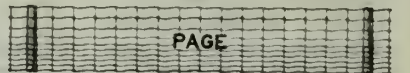
If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## W & P. PAINT.

Good for any purpose where black paint is required; for inside or outside of tanks; for wineries and creameries; for floors, sinks, and wash trays; for insulating; for timber or roof preserving; for damp course for walls; for boilers, fronts, stacks, or other iron work; for anything or any place needing preservation from corrosion, dampness, rust or decay. Unaffected by acids or alkalis. Odorless, and safely applied. Dries quickly and is tough and durable. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.**



THE CREAM OF PERFECTION  
IN THE SELF-OPENING GATE LINE  
THE LLOYD CO.  
SOLE AGENTS AND MANUFACTURERS  
PATALUNA, CAL.  
WRITE FOR OUR CATALOGUE



## For Unruly Stock

no fence equals The PAGE. It's so much stronger.  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.



## WIRE FENCE GOODS DIPPING BASKETS

West Coast Wire  
& Iron Works,  
19 Fremont Street,  
San Francisco, Cal.

## ALMOND HULLING and SEPARATING MACHINERY.

Send for Catalogue.

WALTER G. READ & CO.,  
(New Shops.) DAVISVILLE, OAL.

## ALMOND HULLERS

—For Sale by—

A. O. RIX, Irvington, Alameda County, Cal.



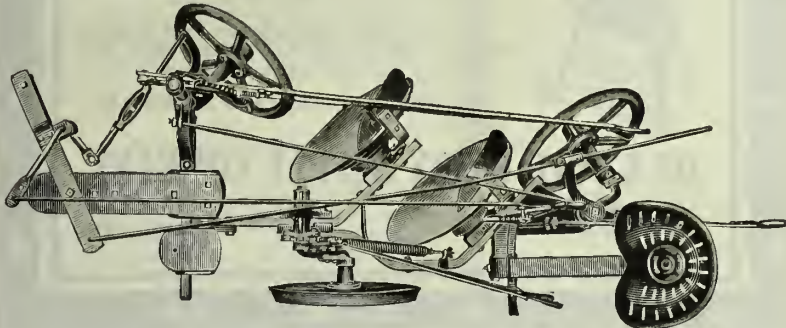
# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

- If the set of the discs enable you to do *better work*?
- If it will plow hard, dry ground with *less weight* than any other?
- If in many cases where other plows need some weight ours needs *none*?
- If it can be *turned to right or left* with equal facility?
- If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

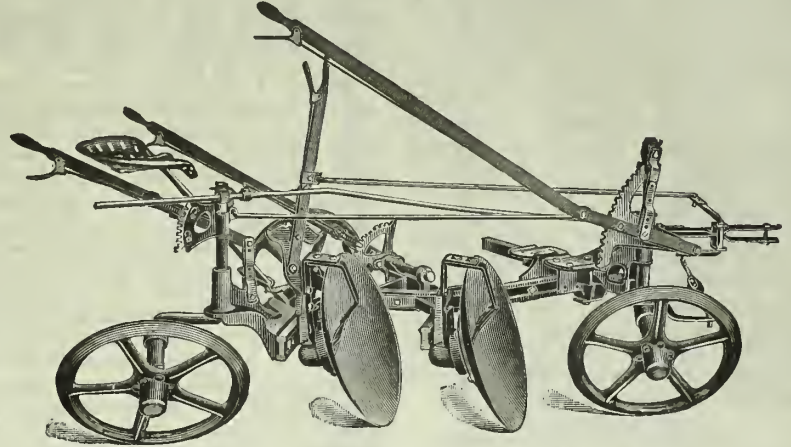
- If the *discs* can be removed instantly without a wrench?
- If the disc bearings are *dust proof* and run in oil continually?
- If each wheel can be *raised or lowered* by an independent lever?
- If the *land gauge* is far superior to any previously invented?
- If the orchard type will run *closer to the trees* than any other?
- If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5||or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



### PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue, with Prices.  
BURNHAM-STANFORD CO.  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

### GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



13 FIRST STREET, SAN FRANCISCO, CALIFORNIA.

IRRIGATORS ATTENTION!

## Eclipse Centrifugal Pumps

AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.

Send for Folder.

FOR INFORMATION REGARDING

PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,

Write KROGH MFG. CO.,

519 MARKET ST., SAN FRANCISCO.



## Patrons of Husbandry.

The State Grange.

To THE EDITOR:—The meeting of the California State Grange will be held in San Jose Oct. 6, 1903. I predict the largest attendance at the meeting in the history of the Grange. The Santa Clara valley is full of earnest members. The order has increased wonderfully during the year. The visit of National Master Jones stirred the members to earnest work, which was faithfully carried on by Master C. W. Emery and Overseer H. Raap and others. Much business of importance to the farmer will be introduced, also the election of officers for the ensuing two years will be held, and the San Jose people will make this one of the greatest State meetings. All members should attend from all parts of the State.

E. C. SHOEMAKER,  
Steward Cal. State Grange.  
Visalia, Aug. 24.

## Breeders' Directory.

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry, William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**THOMAS WAITE,** Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS.** Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheer, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHBRED POLAND-CHINA FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUBOIS HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**SANTA TERESA POULTRY FARM,** Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP.

**R. H. CRANE,** Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 81, Box 2002, San Francisco. M'n'f'rs of Pacific Incubator and Brooder. Send for Catalogue.

## THE VINEYARD.

Does Not Approve Any Tax on Pure Wine.

It is reported from Stockton that on Saturday last a mass meeting of grape growers was held for the purpose of opposing the proposed bill to tax wines, as projected by Congressman Bell.

Charles A. Wetmore, formerly prominent in wine circles in California and at that time president of the National Wine Makers' Association, presented resolutions, which were adopted, pledging the support of the vine growers of San Joaquin county to all efforts to prevent the manufacture and sale of spurious, adulterated wines; favoring the fair application of the internal revenue laws affecting the use of pure grape spirits to fortify sweet wines so as not to favor large wineries against small ones; condemning the practice of large dealers in adulterating brandy with corn spirits; declaring it impracticable to subject wine making to internal revenue laws, as it would foster the evils of monopoly; counseling the resistance of any attempts to pass such a law as proposed by Congressman Bell; favoring the establishment of new independent wineries, to prepare for action towards preventing a depression in values, and providing for the appointment of a committee to effect local organization.

Mr. Wetmore declares that if the prevention of adulteration were sought it could be accomplished by a bill similar to the oleomargarine bill, which protects pure butter without taxing it.

### The Wine Growers' Meeting.

The results of the St. Helena meeting of grape growers and wine makers were briefly outlined in our last issue. Fuller account of the proceedings is given in the St. Helena Sentinel.

J. L. Beringer called the meeting to order at 11 o'clock and stated its objects. Andrea Sbarboro, president of the Italian-Swiss colony, was chosen chairman of the meeting and Bismarck Bruck secretary.

Mr. Sbarboro made a short address, in which he commended Congressman Bell for calling the convention. He deplored the fact that so little attention has been given by the legislature of the State to the improvement and fostering of the wine industry. The need of laws to insure the purity of all food products was pointed out, and the statement made that grapes were so cheap in California that there was no excuse for adulteration and fabrication.

The chairman then appointed C. L. LaRue of Yountville, C. Bundschu of San Francisco, T. Gier of Oakland, W. W. Lyman of St. Helena, H. Schuler of Woodland, A. Hanson of San Francisco and J. L. Beringer of St. Helena a committee on resolutions, and the convention adjourned for lunch.

On the reassembling of the convention the following resolutions were reported and adopted:

WHEREAS, The manufacture and sale of impure wines in the United States has become detrimental to the wine interests of the country, and

Whereas, Stringent national legislation is required to prevent a continuance of such abuses; therefore be it

Resolved, That this convention, composed of wine growers and wine dealers of California, earnestly demand a federal law that will protect the legitimate wine industry from imposition and fraud, and we respectfully request our representatives in Congress to use all proper means to secure the passage of such a measure.

After the adoption of the resolutions Congressman Bell addressed the convention. He thanked the delegates for their attendance, and said that their presence indicated a desire to secure legislation that will protect the industry in which they are all interested.

Mr. Bell then indicated the means by which Congress may handle the problem presented. Congress is hedged about by constitutional restrictions, which prevent it interfering with the police powers of the State. It cannot say that no impure or adulterated wines may be made or sold in any State, but it can prevent the shipping of such wines from one State to another, and it

The Unwise Dairyman never thinks when he buys.  
The Wise Dairyman often thinks too long before he buys.  
The Wiser Dairyman buys a De Laval first and thinks afterwards.

★ ★ ★ ★

## THE DAIRYMAN'S ENDORSEMENT.

400,000 machines in use.  
Ten times the number of all other makes combined.

### De Laval Cream Separators



Combined with patents "Alpha-Disc" and "Split-Wing" improvements. The standard of perfection in modern dairying machines.

Insures purity of product, saves time, labor and worry. Increases the value of every cow.

PERFECTION IN CONSTRUCTION.  
POSITIVE IN PERFORMANCE.  
ECONOMICAL TO MAINTAIN.

A DE LAVAL Catalogue may be had for the asking. A lesson in dairying on every page.

The largest and most complete stock of dairy apparatus and supplies on the Pacific coast carried by us. Full line constantly on hand.

Write for our catalogue—tells you lots about dairying.

**DE LAVAL DAIRY SUPPLY COMPANY,**  
9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

★ ★ ★ ★

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

**MIDLAND FEED.** THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES. Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Crumpling Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

can impose a direct tax on wine.

In order to provide funds to enforce a pure wine law, Mr. Bell suggests a tax of 1 cent a gallon on pure wines and a high tax on impure wines. The whole subject should be relegated to the revenue department of the government.

Congressman Wynn made a short speech professing his interest in the subject and pledging his support to the desired legislation.

Senator W. F. Tarpey of Fresno made an interesting speech, and presented a resolution providing that the vineyard and wine men hold conventions in convenient places in each congressional district, and elect three delegates from each district to meet in a State convention to discuss matters pertaining to the wine industry of the State. The resolution was adopted.

J. D. Silva, of Progressive Grange of Healdsburg, told of the interest of the Patrons of Husbandry in all pure-food legislation.

C. Bundschu of San Francisco, after a short address, nominated the following committee to assist in framing a pure wine law: J. L. Beringer for Napa county, C. L. LaRue for Sacramento county, T. Gier for Alameda county, P. T. Morgan for San Francisco. The Sonoma delegates elected Mr. Bundschu to represent them on the committee, and W. B. Rankin of Los Gatos was added for Santa Clara county.

**FOR SALE.**  
**Dairy-Bred Shorthorn Bulls.**

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.  
Phone RED 123. J. W. McCORD, Hanford, Cal.

**BULLS FOR SALE.**

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWCHILLA STOCK FARM.

Address... ISAAC BIRD, Merced, Cal.

**The Thoroughbred BERKSHIRE BOAR,** Highelore Oxford 63442.

Sired by Highelore Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young sows and boars of breeding age from this fine boar and out of choice sows for sale by

CHAS. C. PERKINS, Sacramento, Cal.

**Cocoanut Oil Cake.**

THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.

**ENTERPRISE STOCK FARM.**

The home of such Shorthorns as Inwood Chief, the prize winning two-year-old of the State, also open class of 1902 and sweepstakes; and Hopeful 57, champion heifer and cow, won first at two-year-old of State and open classes, the winner of sweepstakes cow of any age, also grand sweepstakes of her herd. Young stock, registered and graded, for sale. H. P. EAKLE JR., Woodland, Yolo Co., Cal.

**RED CROSS WIND MILLS**

ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURN-TABLE. SEND FOR CATALOGUE. MAILED FREE.

**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.



## Moravian or Hanna Barley.

In the PACIFIC RURAL PRESS of May 16 last we gave quite a full account of the way in which Mr. August Hagemann of Livermore secured the Moravian, or Hanna barley, from the University of California, and how well it grew and produced on him during the years 1901 and 1902. We now have the results for 1903, the third year:

"The yield of the second year (8000 pounds) we sowed on ninety acres of clean land in this season of 1903, and threshed therefrom about 100 tons of grain. We observed the same properties, viz., early in the heads and quick to mature, as in the previous seasons. It again headed out fully two weeks sooner than the ordinary Chevalier sowed at the same time and under equal conditions. Furthermore, the Moravian barley has a stronger straw than the other Chevalier, and was not affected nearly so much by the hot north winds, which did so much damage to barley in the first part of the month of July, breaking off the heads. The barley this year reaches the standard weight of fifty-four pounds to the bushel."

Mr. Hagemann believes this Hanna barley will replace the Chevalier, which has deteriorated during the last few years.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING AUGUST 11, 1903.

- 735,851.—THERAPEUTICAL APPARATUS—G. L. Abell, Oakland, Cal.  
 735,889.—STRAP LOCK—W. P. C. Adams, Seattle, Wash.  
 736,191.—DRAFT EQUALIZER—F. Bahler, Spokane, Wash.  
 735,933.—TIMBER FRAMING MACHINE—Barnes & Smith, Pearce, Ariz.  
 736,061.—CETYL-GNAIACYL—M. W. Beylik, Burbank, Cal.  
 736,202.—CORK RETAINER—W. E. Brown, Los Angeles, Cal.  
 736,203.—HEATER—G. W. Brunner, S. F.  
 735,942.—ORE CRUSHER—A. C. Calkins, Los Angeles, Cal.  
 735,882.—CLUTCH—P. F. Dundon, S. F.  
 736,078.—TREATMENT OF ORES—H. T. Durant, London, England.  
 735,863.—ENGINE CYLINDERS—Duryea & White, Los Angeles, Cal.  
 735,957.—ANIMAL TRAP—G. F. Eberhard, S. F.  
 735,885.—PORTABLE DESK—J. B. Elliott, S. F.  
 735,794.—WRENCH—C. C. English, S. F.  
 735,868.—SAW SHARPENERS—G. A. W. and J. H. L. Folkers, S. F.  
 735,872.—SASH LOCK—L. H. Handy, S. F.  
 735,972.—HOTEL REGISTER—C. H. Harger, S. F.  
 735,979.—WEIGHING MACHINE—G. Hoepner, S. F.  
 736,100.—LOCATOR—N. Hostettler, Eugene, Or.  
 736,098.—PURIFYING LIQUORS—J. Houden, S. F.  
 735,733.—TICKET HOLDER—A. L. Johnson, Seattle, Wash.  
 736,267.—WELL DRILL—H. Kelly, Los Angeles, Cal.  
 735,986.—VINEYARD CULTIVATOR—L. B. Kilgore, Concord, Cal.  
 735,886.—CULTIVATOR—G. P. Kimball, Salem, Or.  
 735,887.—POWDER DISTRIBUTOR—G. Lagomarsino, S. F.  
 736,121.—BOOT CALK—A. P. Lipscomb, Yaeger, Cal.  
 736,123.—RAIL JOINT—P. J. Lukes, Balls Ferry, Cal.  
 735,991.—TRAIN PIPE COUPLING—J. C. Martin, Jr., S. F.  
 735,997.—IGNITER FOR GAS ENGINES—J. D. McFarland, Jr., S. F.  
 736,136.—PISTON ROD JOINT—J. D. McFarland, Jr., S. F.  
 736,137.—PROPELLER—A. C. G. H. McIntosh, Eureka, Cal.  
 735,794.—FASTENING—C. E. Morgan, Portland, Or.  
 735,994.—FISH CLEANING MACHINE—T. Morris, S. F.  
 736,140.—MEMORIZER—Mary E. Nicholl, Oakland, Cal.  
 736,334.—CURTAIN FIXTURE—Susan A. Norwood, Portland, Or.  
 735,897.—LOGGING JACK—J. G. Owen, Southbend, Wash.  
 736,008.—ELECTRIC RAILWAY—J. W. Perkins, San Jose, Cal.  
 735,813.—ORE SEPARATOR—Pira & Salomonson, Oakland, Cal.  
 736,305.—AMUSEMENT DEVICE—A. Seyfried, S. F.  
 735,843.—CORSET—Nettie Temple, Stockton, Cal.  
 735,919.—QUICKSILVER FURNACE—A. A. Tregidgo, S. F.  
 786,320.—WEED CUTTER—J. C. Walter, Athens, Or.  
 736,325.—FEED MECHANISM—White & Duryea, Los Angeles, Cal.

## ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He made to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas! he also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. H. Webster, formerly of the Kansas Agricultural College and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

Remember, the U. S. Holds World's Record

For further particulars as to its merits, write for catalogues.

Vermont Farm Machine Co., Bellows Falls, Vt.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P. O. BOX 18 FRESNO, CAL.

## LARGEST CITRUS NURSERIES IN THE WORLD

Trees True to Name; Standard Varieties; Catalogue Free.

R. M. TEAGUE SAN DIMAS CITRUS NURSERIES San Dimas, Cal.



### Full Sacks

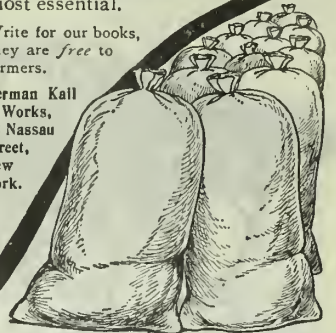
of plump, rich grain are obtained by the use of a fertilizer containing not less than 6% actual

## Potash

For Wheat, Rye, Barley, and all other grains, Potash is most essential.

Write for our books, they are free to farmers.

German Kall Works, 93 Nassau Street, New York.



MEYER, WILSON & CO., San Francisco, Cal., Sole Agents for the Pacific Coast.

## THE "BOSS" TREE PROTECTOR.

### Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

#### PRICES:

12 inches long,	\$ 9.00 per 1000.
14 " "	" 10.00 " "
16 " "	" 11.50 " "
18 " "	" 12.50 " "
24 " "	" 15.00 " "
30 " "	" 17.50 " "

Agents Wanted Everywhere.

YUCCA MANUFACTURING CO.,

450 SANTA FE AVE., LOS ANGELES, CAL.

## WEATHER VANES



WAGON and PORTABLE SCALES.

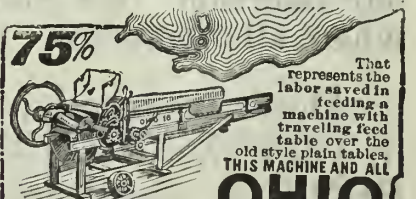
HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.



## OHIO

FEED AND ENSILAGE CUTTERS are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage"

BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts.

HOOKER & CO. 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO.,

G 26 Montgomery St., San Francisco.

G 325 Dearborn St., Chicago.

G 338 So. Broadway, Los Angeles.



Single and Double Acting Deep Well Pumps of the highest efficiency.

STEAM AND GEARED PUMPS pumping water supply for cities, railroads and factories.

THE DOWNIE PUMP COMPANY. Box 21, Downieville, Pa.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

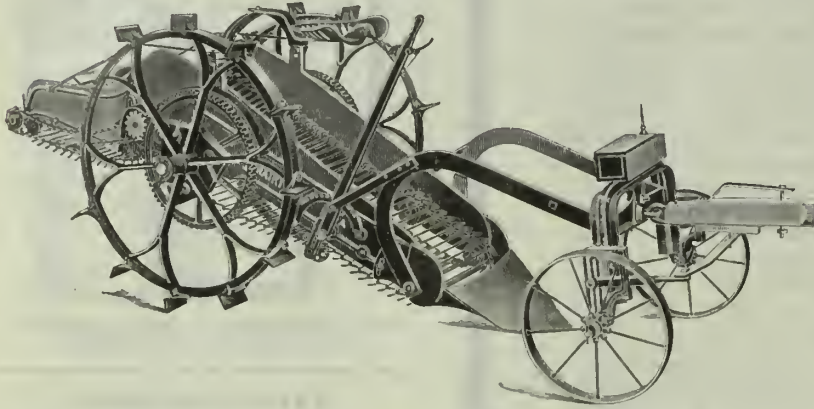
Open All Year. : A. VAN DER NAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



# THE IMPROVED

# Dowden Potato Harvester.

## Combining STRENGTH, CAPACITY and DURABILITY.



SALEM, OREGON, Dec. 6, 1902.

MR. T. B. WAIL, Salem, Oregon.

Dear Sir: The Dowden Potato Harvester that the Oregon Insane Asylum management purchased of you as agent at Salem for the John Deere Plow Co. has filled the bill to a dot; you said it could go into the field without an expert and sell itself, which it did. We had no bother with it; it did good work in dry and as wet land as team and men could operate upon, taking out all the potatoes an inch in diameter and upwards. Of all the potato harvesters we have ever seen it is the best. It is easily drawn with four horses, and is built strong enough for six. It will last a long time.

D. T. BROWN,  
Farmer at the Oregon Insane Asylum.

AN INVESTMENT WHICH THE POTATO PLANTER WILL FIND YIELDS HIM LARGE DIVIDENDS.

One of the Greatest Labor-Saving, Most Practical and  
Simplest Machines on the Market for the Farmer To-day.

## Deere Implement Co.

General Agents,

SAN FRANCISCO, CAL.

# Benicia-Hancock Disc Plows

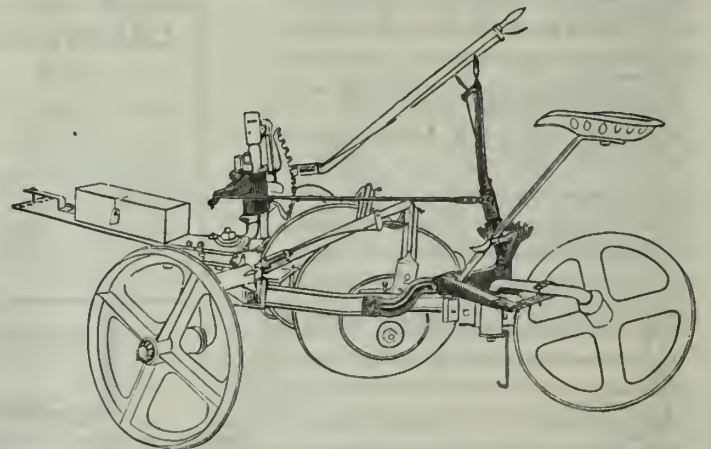
## 1, 2, 3, 4, 5 or 6-DISC.

In addition to our regular field disc plows, we manufacture the same plow for **ORCHARD USE**.

Will do better work with one-third to one-half less draft than any other disc or mouldboard plow made.

It is constructed to run close to the ground.

It bends the weeds and stalks as it passes over them and forces them into the furrow, and they are fully covered up and enrich the ground. In this respect, to say nothing of the draft and other advantages, it is a hundred per cent ahead of the IMITATION HIGH TRESTLE DISCS that others are trying to make, and we are ready to prove our assertion. We guarantee it to plow hard, dry ground where all others fail.



Don't be misled into buying any Disc Plow until you try the BENICIA-HANCOCK in your own field---**AT OUR RISK**. Other plows may still be improving, but the BENICIA, with its patented features, is away in the lead **AND WILL STAY THERE**.

### JUST TWO SAMPLE TESTIMONIALS.

DEAR SIR: I have just seen your two-gang Benicia Disc Plow work, and have given an order for same. Without going into details, I will say that it does the most wonderful work I ever saw a plow do. Drawn by a light four-horse team, your agent drove into a dense growth of tules from 10 to 12 feet high and cut a furrow ten inches deep through a dense growth of roots, many of them as thick as a man's wrist, as easily as an ordinary plow could turn up a well-tilled orchard. The fact that my ordinary plow, with the same four-horse team, was unable to move 10 feet in the same, adds to my appreciation of the Benicia Disc.

Yours truly,

WATSONVILLE, CAL.

A. CUNNINGHAM.

DEAR SIR: We have seen the Benicia Disc Plow given a thorough trial in adobe soil, also in heavy land full of salt grass roots, which had not been plowed in three years. The Benicia Disc did excellent work, turning two furrows any required depth, leaving the soil in fine condition for seed bed. In part of the land in which the plow was worked, any other plow could not be kept in the land.

Yours respectfully,

E. C. HARLAN,  
C. MASTEN,  
J. WELLS,

DUBLIN, CAL.

J. J. HARRISON,  
M. J. COEHLER,  
C. B. EIMERS.

WRITE FOR CIRCULAR AND OUR LIBERAL OFFER TO ALL BONA FIDE INTENDING PURCHASERS OF A DISC PLOW.

# BAKER & HAMILTON

SACRAMENTO, SAN FRANCISCO, LOS ANGELES, CAL.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 10.

SAN FRANCISCO, SATURDAY, SEPTEMBER 5, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Red Spiders on Fruit Trees.

One of the penalties of having a fine, dry summer air in which to ripen California fruits is the warfare with minute mites, which are commonly called red spiders, although some of the pests do not technically belong to this class. A partial compensation for having the dry air favor the mites is the fact that hot, dry air is also favorable to the vaporization of sulphur, which is the most satisfactory mite-killer which has yet been found. Dry sulphuring has saved incalculable losses through mite infestation of deciduous trees and garden plants; but it is interesting to know that using the sulphur in the form of a spray is more effective than the sulphur dusting. We give ample space upon another page to a description of the ways of sulphur spraying which have proved signally successful this summer in a large number of experiments conducted by the entomologists of the State University.

In this place we are concerned to give some of our readers a more clear idea than they have had hitherto, perhaps, about the form and multiplication of the so-called red spider of deciduous trees, notably the almond tree. The portrait of this insect upon this page gives a profile view, which we presume will suggest to some reader he might be called the

sawed-off mite—for such is his lateral aspect surely. In his bulletin, to which we refer elsewhere, Mr. Volck says that red spiders (a family of plant-feeding mites) appear as minute brownish red, red or yellow specks, found either moving about over the surface of the leaves or nesting in protected places on the stems. Their eggs can easily be seen with a magnifying glass. In the case of red spider of the orange, they will be found in numbers along the mid-rib on the upper side of the leaves, but are often found elsewhere. They are round, red before hatching and white afterward. The eggs of the almond

Bryobia are also red, but are usually deposited on the stems. The larger white specks and masses found on leaves and stems infested with mites are composed of the shed skins of the young mites, for they molt several times before reaching the adult stage.

One of the most interesting questions in connection with sulphuring vines for mildew and trees for red spider is the form in which the sulphur comes from the manufacturer. We have commented upon this subject several times, and tried to show that vaporization takes place more satisfactorily when the sulphur is in exceedingly fine particles, or in thin flakes of particles rather than in chunks or lumps. The sublimed sulphur, which is condensed from the vapor produced by heat, naturally assumes very small thin forms, and is much smaller in average size of particles than ground sulphur, although it is possible to grind sulphur so fine that there is little practical difference. The picture on this page shows the contrast between ground and sublimed sulphur, and the different forms under the microscope can be easily discerned. In his discussion of sulphur in connection with the red spider warfare, Mr. Volck remarks that there are two theories to explain the insecticidal and fungicidal properties of sulphur. The action is most probably due to the vapor of sulphur; others

attribute it to that vapor being oxidized by the action of the air into sulphurous acid. The deadly properties of sulphurous acid, or sulphur smoke, are well known, and it is usually considered to be more fatal to plant than to animal life. Whichever theory is correct, it is quite certain that the sulphur has to evaporate before it becomes effective; therefore the larger the evaporating surface, the better the result.

The evaporating surface of a substance is enormously increased by pulverizing it into a fine powder, and the finer the powder the greater the surface. There is no reason why the ground sulphur should not be as good as the sublimed if the pulverization were as fine; but the ground sulphur on the market is composed of some particles very much finer than the particles of sublimed sulphur, and many others vastly coarser. If these large particles were bolted out and repulverized, an article superior to sublimed sulphur might be produced.

The left side of the accompanying illustration shows the irregular lumps and particles of ground sulphur; the right side shows the uniform globular bodies of sublimed sulphur collected in small masses.

If the efficiency of sulphur depends on the part vaporized, it is evident that good results demand the retention of the vapor. This could be accomplished by placing a tent over the tree, as in cyanide fumigation; but the time required for sulphur to affect mites is so great, that this is impracticable. The same result can be obtained by a uniform and thorough distribution of the sulphur particles over the surface of the tree; when this has been accomplished, the mites will always be in close proximity to particles giving off vapor.

### An Alaskan Residence.

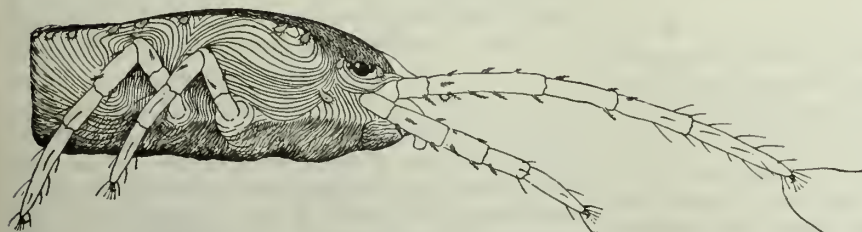
Though Alaska has unquestionably some of the grandest scenery in the world—forests, glaciers and lofty mountains—there is much which is sadly lacking in the picturesque, and it is amid some of the dreariest surroundings that enterprises are planted and pursued. Both along the bleak coast and upon the wastes of moss and scrub forests in the interior habitations are set up and busy lives are led. Our picture shows the summer aspect of a habitation of this kind and no one can tell from the looks of the house how few or how many thousands the industry of the owner has turned out. The dwelling is unique and may be suggestive to some of our outing people who have only poles available for building purposes.



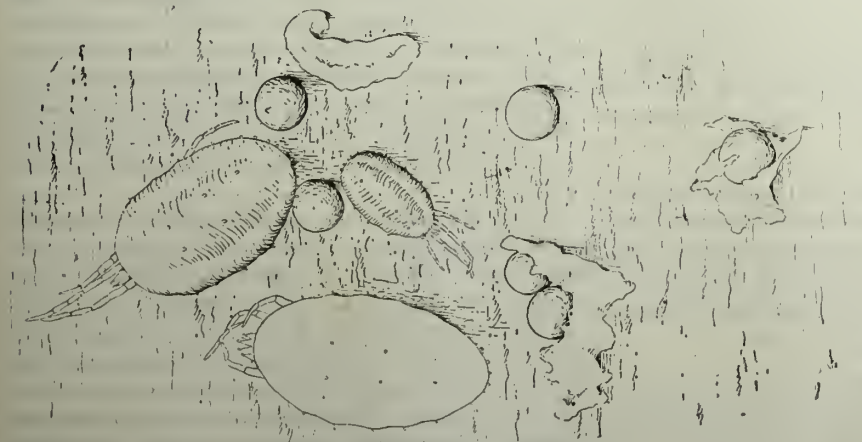
A Summer Home in the Yukon Region of Alaska.



GROUND. SUBLIMED.  
Photo-Micrograph of Ground and Sublimed Sulphur.



Red Spider, or Mite of the Almond.



The Eggs, Shed Skins and Molting Forms of the Red Spider of the Almond.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, September 5, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—A Summer Home in the Yukon Region of Alaska; Photo-Micrograph of Ground and Sublimed Sulphur; Red Spider, or Mite of the Almond; The Eggs, Shed Skins and Molting Forms of the Red Spider of the Almond, 145.

EDITORIAL.—Red Spiders on Fruit Trees; An Alaskan Residence, 145. The Week; Notes on California Plant Breeding, 146.

QUERIES AND REPLIES.—Phosphates for Orange Trees; Non-Irrigated Fruit; A New Wax Apple; Sowing Rye Grass; "Hanford Sandy Loam"—With Spots, 147.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending August 31, 1903; Temperature and Rainfall, 147.

ENTOMOLOGICAL.—More Effective Treatment for Red Spider, 148.

FORESTRY.—Fine Points of the California Display at St. Louis, 148-149.

THE VETERINARIAN.—More About Tuberculosis, 149.

THE VINEYARD.—European Grapes and Raisins; California Vine Disease; The Great Vina Vineyard, 149.

THE STOCK YARD.—Single or Dual Purpose Cattle, 149.

THE DAIRY.—The Creamery Convention at Sacramento, 150.

THE FIELD.—Spraying for Potato Blight, 150.

AGRICULTURAL REVIEW.—151

THE HOME CIRCLE.—Breaking the Ice; A Coward's Courage, 152. Humorous; Hints to Housekeepers; Wants Better Meat Cooks, 153.

THE MARKETS.—Produce Market; Fruit Markets, 154

PATRONS OF HUSBANDRY.—Importance of Farmers' Organizations, 156.

SHEEP AND WOOL.—Yuba and Sutter Wool Growers, 153.

AGRICULTURAL SCIENCE.—University Short Course in Agriculture and Horticulture, 158.

FRUIT MARKETING.—Peaches and Plums in Fresno, 158.

MISCELLANEOUS.—An Old Acrostic; New Patents, 159.

## The Week.

The State Fair has opened promisingly. Several of the county exhibits are admirable, and visitors have trouble in awarding the prizes; so it is clear that the judges will not have an easy problem. It is too soon to characterize the fair as a whole, but experts in the line of prophesy are voicing great expectations. The judging of cattle will begin on Monday, Sept. 7th, the Shorthorns, Herefords and Devons coming first under Prof. Carlyle's eye, and other breeds on following days. Those interested in stock show should follow this judging carefully from first to last.

Spot wheat is firm at last week's figures. Part of a cargo, 733 tons, value \$19,800, cleared for Europe. There were four barley clearances, aggregating 7344 tons, value \$184,100, cleared for Europe. Five vessels were added to engaged list, all to take barley as main cargo. One charter was at 16s for barley and 7s 6d for the wheat necessary for stiffening. Another charter was at 15s for barley 12s 6d for wheat. Two barley charters were at 15s 9d. Barley market is strong; prices for the lower grades are moving upward. Oat market is in healthy shape. The Government wants 39,000 tons in addition to recent purchases. Corn is arriving from the East in moderate quantity, but is not materially lower. New large white beans have been placed at \$2.50. Eastern crop is reported in poor condition. Millfeeds are slow sale. Hay is in lighter receipt and market very firm for choice wheat. The Government wants 3700 tons. Beef, mutton and hogs are moving in a moderate way at unchanged figures. Butter market is firmer for fancy fresh, but other grades are as last quoted. Cheese market is weak for other than select new. Prices for fresh eggs of select quality continue on the up grade, and holders of cold storage stocks are not missing opportunities to make profitable sales. Poultry market has been discouraging most of the week. Big, fat hens and fine broilers sold fairly well. Potatoes are lower, offerings being ahead of the demand. Onions sold at a further decline. Fresh fruit market has been slightly firmer for good to choice, more especially for Bartlett pears. Canners were in the market for peaches and plums, paying \$25 per

ton for choice peaches and same figure for first-class Egg plums and Silver prunes. Dried fruit market is less active, but no lower. The German steamer Silesia, sailing Monday, took 1,151,516 pounds prunes, mostly for Germany, and 30,000 pounds other dried fruit. The Raisin Growers' Association will continue in business. They name 6½, 6½ and 7c as the opening prices for two, three and four-crown loose Muscatels. Honey market is steady to firm; 100 cases went to Germany per steamer. Hop market is quoted strong, with prospects of 25c for choice growths. Wool is quiet here; a strike on at the scouring mills; 266,779 pounds shipped this week via Panama to New York; buying is still being done freely in the interior.

Owing to the unavoidable delay in fitting up the new buildings, the practical school of agriculture and other rural arts will not open until September 30. There is time then for a few more to decide to carry their grammar school training to this new State school to serve as a foundation for special work in agriculture, horticulture, mechanic arts, domestic economy, and to carry along their studies in natural science, mathematics, English, etc. This is, in fact, a school which adds practical industrial training to the most essential studies of the ordinary high school and it is hoped it will answer the needs of those who take the utilitarian view of desirability in the choice of studies. Principal Leroy Anderson will be assisted in horticulture and mathematics by Mr. S. S. Twombly, heretofore science teacher in the Fullerton High School, and at the same time a practical fruit grower. The mechanical training will be given by Mr. O. L. Head, a graduate of Troop Polytechnic Institute. The English and domestic science will be taught by Miss Gwendolyn Stewart, a Stanford graduate, who has pursued both studies and teaching in her chosen line in the leading schools of domestic science at the East. This school ought to be crowded from the start.

Who is getting ready to take a short course in agriculture, horticulture and dairying at the State University this fall? There will be two short course schools in operation at Berkeley from October 6 to December 17. One is the regular "dairy school," with the mornings in the separator, the churn, the cheese vat, etc., and the afternoons in the lecture room and laboratory—a condensed course in up-to-date dairy science and practice. The other is the short course in agriculture and horticulture, of which a brief sketch is given upon another page of this issue. All who are thinking of either of these straightforward schools, which one can enter without formal examinations and get all the good one can, should send at once for the circulars of information about instruction, expenses, etc., to the agricultural department of the University at Berkeley for them. There were about fifty men and women in attendance at both schools last year, and they worked well and learned much. There will be a chance for you this year if you apply early.

Florida shows a citrus fruit product of all kinds at 980,000 boxes, worth all around at the growers' station \$1.45 per box, or a total of \$1,321,000, and the statement is made that "Florida oranges this year more nearly reclaimed their high standing in the markets than they had ever done before since 1895. In quality and price, to the close of their season in Northern markets—they were substantially done by March 31—they ranked easily first; and this was more especially true of the pomelos, which outclassed all others by 25% to 150%." The increase of production since the freeze of eight years ago has been slow, for much of the old citrus territory has been given to other crops.

A camphor forest of 50,000 acres, containing fully 120,000 trees, has been found on the island of Formosa. There seems some uncertainty about the proposition to plant camphor forests in this country while such little discoveries can be made in the home of the camphor tree.

At the close of last week the overland fruit shipments passed last year's record, the account on August 30 standing 4522 cars, as against 4487 to an even date in 1902.

## Notes on California Plant Breeding.

Plant breeding has been pursued in California ever since the establishment of the Missions by the Spanish padres. The first of these establishments was made at San Diego in 1769, and here the first cultivated fruit was grown. Gardens surrounded also the Missions established later as the padres proceeded northward through the coast regions of the State. Many kinds of fruit were grown and quite marked differences in the varieties of the same fruit were noted by visitors to these Missions before the date of American occupation, and many of the fruits survived after that date. While the "Mission grape" and the "Mission fig" were the same at all the Missions, and indicate continuous propagation by cuttings, the "Mission olive" has local variations which have never been accounted for. The deciduous fruits varied greatly and seem to indicate selection from seedlings. There is no evidence that the padres practiced budding or grafting, and there are some reasons for thinking that they relied upon growth from seed, and secured better qualities here and there by selection, although they developed nothing by the process equal to the varieties known to Europeans and Americans at the middle of the last century.

Very soon after the American occupation and the announcement of gold discovery a sharp interest arose in new varieties of fruits, upon the widely prevalent idea that such varieties would be better adapted to local soils and climates than the popular sorts of the humid regions of America and Europe. There were thousands of seedlings to select from, because seeds and pits were easily brought along the various routes followed by the pioneers, while the shipment of nursery stock was very difficult and expensive. The first fruits grown in the State by Americans were counted worth as much for seed as for pulp, so sharp was the demand for the multiplication of trees. Many very satisfactory seedlings were fruited, some of which have ever since maintained their places in the fruit lists of the State. When the introduction of grafted trees from all parts of the world began by enthusiastic horticulturists who came from all civilized countries to the new El Dorado, there became available many new elements of parentage. It may be doubted whether in any part of the world so many varieties came to fruiting at the same time as were to be found in central California. The growth of seedlings continues the belief that the wonderfully favorable conditions for growth would produce horticultural wonders in size, beauty and quality. Of course, not all such anticipations were realized. Selection of seedlings began to be pursued upon a rather more rational ground, namely, to secure particular adaptations to local needs in season of ripening, in suitability, preservation and transportation, and in many other characters which were seen to be locally desirable. How widely and how definitely also this selection of seedlings was pursued and what satisfactory results were secured, are shown in considerable detail in a paper which the writer contributed to the Proceedings of the American Pomological Society, session of 1895. This watching for wonders in chance seedlings is still a passion of the California fruit grower, and desirable acquisitions are still being disclosed, although each year brings new casualties to the fruit lists. There are probably not one-tenth as many varieties of all kinds of fruit, both citrus and deciduous, now growing in California as there were twenty years ago. Although many new varieties have been secured both by selection of seedlings and by the higher arts of plant breeding, ten times as many have been dropped from the lists, not because they were failures as fruits, but because they did not meet the very sharp requirements of commercial fruit growing as now pursued in California.

During the last decade plant breeding in California has rapidly widened its scope and advanced in aim and method. Though our most distinguished plant breeder, Mr. Luther Burbank, began his California life and effort as early as 1875, it was not until some years later that results began to appear and the people to understand his lofty purposes and wonderful achievements. The disclosures of a horticultural prophet of the highest type has naturally stimulated interest in plant breeding and a popular recognition



of its high character as an effort of human intelligence and of its usefulness to mankind. Mr. Burbank's medal awarded by the California Academy of Sciences; his election as honorary member of the University Club and his acceptance as a conscientious worker and as possessed of exceptional talent by the representatives of the two great universities of California—all these are indications of Mr. Burbank's position in popular esteem among those who know him best. It is an interesting fact, which, so far as we can see, need not be held from the public, that during the last few weeks there has proceeded all through the United States an effort to secure a recognition of Mr. Burbank's work and provision for further development of some features of it, from the trustees of the Carnegie Fund for the promotion of scientific research, which is administered from Washington. Men prominent in biological science in all parts of the country are earnestly co-operating to secure this means of rendering Mr. Burbank's work more available to science. We trust the undertaking will succeed. Mr. Burbank's horticultural achievements will take care of themselves. Their merit will immortalize them. His achievements, important to science, need accurate record and interpretation, which in the course of his busy life he cannot give them. If the Carnegie Board of Control will favorably answer the appeal now being made to them it will result in the preservation of phenomena, the importance of which in the development of knowledge of life processes in the plant world cannot now be foreseen.

QUERIES AND REPLIES.

Non-irrigated Fruit.

TO THE EDITOR:—Not very long ago I saw an article in the PACIFIC RURAL PRESS about irrigated and non-irrigated fruit, and in response I send you samples of fruit grown on a non-irrigated ranch at Highland Township, Santa Cruz county, near Wrights Station. The box contains Robe de Sargent, French and Silver prunes from trees planted in 1900; also a few Sugar prunes recently grafted.—L. H., Hall Lodge, Santa Cruz mountains.

These are exceedingly well developed fruits and must have been grown upon a good depth of retentive soil capable of holding enough of the generous rainfall of your region to carry the trees to the end of their season's work without lack. Wherever trees are thus naturally supplied there is, of course, no need of irrigation. The need arises, however, wherever for any reason the soil cannot thus carry the tree to the end. In your own region there are many places where even the large rainfall cannot do this for the trees and where the fruit is apt to lack size, etc., because the soil fails of its moisture supply during the latter part of the growing season. The fruit is the test: if it is regularly produced in good marketable size upon thrifty trees, irrigation is only a recourse to be employed when rainfall is occasionally short. But there is one point more to bear in mind. Your trees are very young. Many a young tree can do good work where an old tree would get very thirsty and fail to reach an acceptable product.

A New Wax Apple.

TO THE EDITOR:—Thinking you may be interested in seeing what to the apple growers here is something of a novelty, at the request of Mr. E. H. Mills, I forward by mail a seedling apple grown on the ranch of Mrs. F. H. Lawton, 1/2 mile north of this place. It probably owes its peculiar whiteness to shade, as the other apples from same tree have a blush on one cheek.—F. W. GILL, Sebastopol.

We have examined this fruit with much interest. It has exceptional points as a show apple and should be tested for keeping quality and effects of packing and transportation. Samples should also be sent to J. A. Filcher, Ferry building, San Francisco, to be preserved for the St. Louis Fair. Its exterior finish suggests the Belmont, or Waxen apple, but it is more symmetrical and beautifully molded in all its features than the Belmont; it is also flatter and of more desirable form. This apple should be held under observation and tested later to see what effect fuller ripening may have. In its present condition it does not seem to be desirable either in flavor or texture, but another month might produce marked changes in these respects. Some specimens should be gathered now and put away in a cool, dark place and others allowed to ripen fully on the fruit com-

pared later. If it should show quality in keeping with its strikingly beautiful appearance it would probably prove quite desirable for propagation.

Phosphates for Orange Trees.

TO THE EDITOR:—Is phosphoric acid desirable as a fertilizer for orange trees and is it safe to make the application in the fall?—READER, Chicago.

Fertilizers for orange trees is a question involving many considerations and governed by many conditions, which are desirable to know before one can decide upon a rational procedure. To answer your questions, however, without reference to the wider bearings of the subject, it may be said that phosphoric acid is found desirable in the fertilization of orange trees, and it can be safely put on in the fall if it is in a form which is not too soluble and therefore likely to be leached out of the ground if the winter rains should be very heavy. Phosphoric acid in the form of Thomas powder is slowly soluble and is safe for application during the rainy season. Superphosphate is more readily available, but its application has to be made more carefully because it is instantly soluble in water. Phosphoric acid is not likely to stimulate new or excessive growth; that particular office is attributable to the nitrogen; for this reason the particular apprehension which you may have in mind about application while the fruit is taking on size, does not apply to phosphoric acid.

"Hanford Sandy Loam"—With Spots.

TO THE EDITOR:—Some time ago I asked you for advice in regard to some land that I just had broken and harrowed and desired to plant corn on. You advised me to plow it again, and by cultivating keep the salt grass, that had been plowed down, in check. As we did not get a drop of water on the land this summer it was of no use to plant anything, and I concluded to devote part of my time to eradicating the salt grass and other grass sod that originally covered the land. For this purpose I am now plowing the land again, hoping that the hot rays of the August sun might destroy the obstinate roots. But then, what next? The land consists of what is called in the Government report on the soil survey of the Hanford area, "Hanford sandy loam," and wherever there is a depression in the ground the soil is terribly baked, almost hard as rock, and resists the attempts of the plow to cut through it. Will such soil ever be good for anything? In other places it is mellow and loose enough. Will it be advisable to plow again, after the rainy season has set in, and harrow, or is it enough to give the land a thorough harrowing then without plowing it again? I would like to try alfalfa on part of the land, seeding it this fall, and depending on the winter rains for a start, and plant grape vines and orchard on the rest of the land early in the spring. We are promised a full supply of irrigation water next year. As the wild pastures around here are green yet I conclude there is considerable sub-irrigation in this district, and that we after a while do not need much surface irrigation. The great question with me and several others here, however, is just now, How to handle the land to the best advantage before the irrigation season commences next year, and whether such land and conditions as we have would be best suited to orcharding or to common farming?—ERNST SKARSTEDT, Laton, Cal.

One can miss it sadly by giving advice on the basis of written descriptions which may be misunderstood. We should say, however, that you could proceed to seeding with alfalfa without further plowing. Pulverize the clods well as soon as you get moisture enough to mellow them down and then sow alfalfa on parts which are loamy, hoping to get the plants sufficiently advanced to stand the frosts of January. The low places which are so heavy and rebellious to tillage are probably also rather alkaline, and we should try them with barley. If the barley fails you will probably have to run them to salt grass until you can develop some way of draining them and washing out the alkali with irrigation water. If you have use for stock beets you may be able to grow them on some of your tough spots by planting early, say in February if it is not too frosty, and keeping them well cultivated to check evaporation and prevent the baking of the soil. If these spots will grow neither barley or beets they had better go for what they are worth for wild feed. Your vines and trees should be on your higher, lighter and better soil. Such land as we understand from your description is better for general farming than for fruit growing.

Sowing Rye Grass.

TO THE EDITOR:—I want to seed English rye grass on wet, black adobe land bordering San Francisco bay. It has been used for pasture for more than twenty years. Could I reasonably expect a stand

without plowing, and which is the best time to sow? J. F. C., Mountain View.

Rye grass catches quite readily when sown at the beginning of the rainy season and you might get a pretty good stand by cutting up the surface with a disk harrow and sowing on the new surface. You would, however, get much better results by plowing as soon as the land will work well and harrowing well. This will not only get you more plants from the seed, but will enable the grass to root more deeply the first winter and, consequently, to remain green later in the next dry season—which favors a better chance for a good perennial pasture.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending August 31, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

SACRAMENTO VALLEY.

The weather during the week was favorable for fruit drying and ripening fruit and grapes. Almonds in Yolo county are ripe and picking is in progress; the yield is about average. Grapes are ripening rather slowly, but are of excellent quality, and there is a heavy crop in all sections. Wine grapes would be improved by warmer weather. Heavy shipments of grapes and fresh fruit are being made from Sacramento. Cool weather during the season has retarded the early ripening of prunes, but this is regarded as favorable, and the crop will be large and of superior quality. Pears, peaches and other deciduous fruits have yielded heavy crops. Hops in the vicinity of Sacramento are nearly all harvested; the yield is about average and quality good. Grain threshing and hay baling are progressing.

COAST AND BAY SECTIONS.

Clear, warm weather prevailed during the week, with occasional light fogs in the coast districts. Grapes and deciduous fruits ripened rapidly and conditions were very favorable for fruit drying. Prune picking and drying are progressing. In some sections the crop is reported light, but of excellent size and quality; other sections report a heavy crop. Nearly all other varieties of deciduous fruits are yielding heavily. Grapes are in excellent condition and will yield a large crop in all sections. Almonds are ripening. Hop picking is in progress in Sonoma and Mendocino counties; the crop is heavier than estimated and the quality very good. Sugar beet harvest has commenced in Monterey county, and the crop is reported fair. Grain threshing and hay baling are nearly completed.

SAN JOAQUIN VALLEY.

Clear weather with warm days and cool nights prevailed during the past week. These conditions have been very favorable for the cutting and drying of fruit. All of the early peaches are dried or are on the trays, and of the late free peaches only a small portion will be dried, as the demand for them fresh is good. Prunes are ripening slowly. The crop will be below average, but the quality is excellent. Picking will become general this week. Almond harvest is progressing; the yield is variable, but quality excellent. The fourth crop of alfalfa has been harvested in some sections. Grapes are coloring well; the crop will be slightly below the average for raisin grapes, but shows a high percentage of sugar. Picking has begun in a few places. Large quantities of table grapes are being marketed. Stock are in good condition.

SOUTHERN CALIFORNIA.

Clear, warm weather prevailed during the week, with foggy nights along the coast. Deciduous fruits and grapes ripened rapidly, and conditions were favorable for beans and sugar beets. The hot weather of the preceding week caused some damage to Lima beans and late potatoes in Orange county. Grain threshing and hay baling are nearly completed. Sugar beet harvest continues. Grape picking has commenced in some places and will be general within a few days; the grapes are said to be of superior quality and the yield is large. Melons are plentiful. Citrus fruits are in excellent condition. Walnuts are maturing, but will make a light crop.

EUREKA SUMMARY.—The barley crop is excellent; grain heavy. Threshing is progressing rapidly; in some localities oats and barley are all harvested. Some early apples are being gathered for the San Francisco market.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 2, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the Week...	Minimum Temperature for the Week...
Eureka.....	.00	.55	.25	.26	66	48
Red Bluff.....	.00	.00	T	.10	102	58
Sacramento.....	.00	.00	T	.03	98	54
San Francisco.....	.00	T	T	.05	77	50
San Jose.....	.00	.00	T	.01	102	58
Fresno.....	.00	.00	.30	.11	92	58
Independence.....	.00	.00	T	.06	82	46
San Luis Obispo.....	.00	T	T	.05	80	54
Los Angeles.....	.00	T	.92	.10	74	62
San Diego.....	.00	.04	.11	.51	106	76



## ENTOMOLOGICAL.

## More Effective Treatment for Red Spider.

Co-operative experiments and investigations pursued by the University entomologists and the horticultural commissioners of Los Angeles and Sutter county have resulted in more effective treatment of red spider than is usually applied, and though it may be too late for use on deciduous trees this season, it is available for citrus trees wherever in the State they are injured by the form of red spider which works upon them. The experimental work was planned and directed by Prof. C. W. Woodworth of the State University and chiefly executed by an entomological student, Mr. W. H. Volck, who writes the University Bulletin, No. 154, in which the conclusions appear. We shall draw from the latter that our readers may be forearmed in the conflict with the grievous mites which are popularly called red spiders:

**DRY SULPHURING.**—Dry sulphuring, or dusting with ground or with sublimed sulphur, has been the usual method of application. The conditions determining the success of dry sulphur are, first, the thorough distribution of the material over the entire surface of the tree; and, second, the retention of this sulphur for a period sufficient to allow it to act both on the mites present at the time of application, and on those which will hatch from the eggs always to be found in large numbers on infested plants.

With dry sulphuring these conditions are often but imperfectly met. The retention of sulphur offers the greatest difficulty. It is best accomplished by dusting the trees when they are wet with dew, but even then the results are not always satisfactory, since large areas of the foliage may become nearly free from sulphur, again allowing the mites to increase. Therefore, dry sulphuring, as generally practiced, can only be regarded as a method of partial control, and has proved a failure in certain refractory cases; indeed, it has seldom been at all successful against the red spider of the orange in southern California, because this mite does most of its work in the fall, winter and spring, when rains and winds greatly reduce the chances of dry sulphur adhering long enough to be effective.

It is evident that neglecting to apply the sulphur thoroughly when the trees are wet will greatly reduce the chances of success, and may often result in failure. The practice of dusting the ground under the trees, or dusting the spider webs found on the ground, will have little or no effect.

Our red spiders lay their eggs and spend their entire life on the infested plants. As far as we have been able to ascertain, they do not intentionally go to the ground at any time, but when they become very numerous on infested trees, they may be knocked off or fall with the dropping leaves in sufficient numbers to be noticeable on the ground, where, without doubt, the great majority die of starvation, being unable to find their way back to the tree. The web found on the ground, and the greater part of that on the trees, is the work of true spiders and not mites; these true spiders catch insects and are beneficial.

The above remarks refer to the red spiders of the almond and orange and most other mites, but it may be that the Tetranychus, which is known as the yellow mite, spends the winter on native green plants, ascending the trees in the spring.

**SULPHUR SPRAYING.**—Our attention was first called to the advantages of the wet method of applying finely divided sulphur by a grower at Upland, who mixed sulphur into water by constant agitation and applied it as a spray to a considerable number of orange trees, with very satisfactory results. The distribution had been much better than was possible with a dusting method, but the adhering qualities were not good. It was evident that if this difficulty could be overcome, much might be expected of this spray as a remedy for mites.

Several adhesive materials were added to the mixture. Lime, which has long been used in paris green work, was rejected because of the bad appearance produced when used on citrus trees. After numerous trials flour paste prepared according to a definite formula was adopted. If the flour-paste spray has sufficient time to dry, it withstands rain and winds very well. Prolonged rains will cause some shifting of the sulphur particles, but these set again on drying.

Sulphur alone requires some time for its complete effects to develop, so if rapid disinfection as possible is desired it can be used in connection with some contact insecticide. For this purpose sulphide of potash has proved best adapted; it kills by contact, but has no lasting effect.

**THE TREATMENT OF THE ORANGE MITE (RED SPIDER).**—The orange tree is very difficult to treat satisfactorily, and very few sprays are adapted to citrus conditions; the difficulty being the danger of injuring the fruit rind or the leaves, or both. Even dry sulphur may be harmful if applied in such a manner as to leave large blotches lodged on the young fruit, in which case serious burning of the rind may result.

The injury is doubtless due to the presence of sul-

phuric acid in the sulphur. All powdered sulphur contains more or less sulphuric acid, owing to gradual oxidation by contact with the air. In the preparation of the sulphur spray for the orange mite the acid may be neutralized with a small amount of lime or, better, by the addition of sulphide of potash.

During the fall and winter of 1902 the writer treated about 100 orange trees, that were affected by the mite, with the sulphur spray. The results were entirely satisfactory, as the trees and fruit were not injured by the application, while the mites were very greatly reduced, and possibly exterminated in some cases.

Both sublimed and ground sulphur were used with good results. Somewhat more ground sulphur was required, since part of it is in very coarse particles, and so not available; the amounts of sulphur varied between ten and twenty pounds to 100 gallons of water. It was found that fifteen pounds of sublimed sulphur per 100 gallons were ample as a fall or winter wash, while ten pounds would do just as well in the spring, after the danger of prolonged rains is over. The proportion of paste found most satisfactory was at the rate of four pounds of wheat flour to 100 gallons of water. Much more than this causes loss by scaling off of the paste film, and a less amount will not be sufficient to stick the sulphur. The lime used to neutralize the acid was slacked and strained and not more than one pound used to 100 gallons of spray.

The application of this spray was very thorough; the trees were large Navels, and an average of thirteen gallons of spray was used. Great care was taken to wet the under sides of the leaves and fruit, as well as the stems and interior. Some of the trees treated were under observation for a month, and passed through heavy rains without material loss of sulphur. The trees were not sprayed in a solid block, but alternate rows were taken, so that untreated trees remained throughout the treated area. The result was that in less than a month the treated trees were practically clean, while the checks were still well infested.

Some attention was paid to the removal of the sulphur from the fruit, and it was found that dry brushing, as ordinarily practiced to clean off dust, was sufficient.

Since the work at Azusa was completed the horticultural inspector at Monrovia has used this spray on a larger number of trees, and reports very perfect results. It may be added that the sulphur spray prepared by the formula used has, so far as observed, no injurious effect on the tree or fruit, and can be applied at any time without danger.

**SULPHUR SPRAYING FOR THE ALMOND MITE (RED SPIDER).**—The red spider of almonds and prunes is a serious pest in the interior valleys of California, but in general dry sulphuring has proved sufficiently effective to keep it in check, and where persisted in, whether the spider is present in numbers or not, has resulted in the practical cleaning up of some orchards.

While this is true in general, there are a few cases in which dry sulphuring has proved a failure. The most refractory case known was that of the McMillin almond orchard in Sutter county; and owing to the co-operation of the County Board of Horticultural Commissioners, we have been able to test, on an entirely different mite and under different climatic conditions, the formula developed in southern California.

The red spider of the almond is larger and harder bodied than the orange species, and experiments have shown it to be about four times as resistant to insecticides. For this reason and also because the mites were very numerous and doing a large amount of injury every day, it was decided to use sulphide of potash with the sulphur spray.

Two gallons of the stock solution (made according to the formula given below) were used to 100 gallons of mixture. The paste was used in the same proportions as in spraying orange trees. Sublimed sulphur was used in two strengths—ten and twenty pounds to 100 gallons of mixture.

Every effort was made to spray the trees thoroughly on both the upper and lower surfaces of the twigs and leaves. Trees, 15 to 20 feet in diameter, received from eight to twelve gallons of spray; the trees were in full leaf, so the amount was not excessive.

The entire orchard was treated and the work has now been under observation for over a month. The injury done by the mite was stopped at once, the majority being killed. The adults all died in about fifteen days. Very few eggs remain, and the sulphur is killing the young as fast as they hatch; in fact, it seems as if complete disinfection of many trees would result.

At the time of spraying, the leaves of many of the trees were bleached out by the constant work of the spider; since the spraying, the color of these affected leaves has improved until many of them cannot be recognized as mite injured. This is due to the fact that mites feed by sucking, and their mouth parts are so small that they can puncture the cells of the leaf and draw off the more fluid portions, including the green matter, without killing them. Microscopic sections of leaves very badly injured by mites show the cells to be intact, except that most of the chlorophyll granules have been removed. These results

show that the foliage can be saved even in very advanced cases of mite injury.

**PREPARATION OF SULPHUR SPRAYS.**—The ingredients of the sulphur sprays are prepared as follows:

**Flour Paste.**—Take one pound of wheat flour to one gallon of water. Place the flour in a box with a screen bottom (common window screening), and pour the water through it, until all the flour has been washed into the receiving vessel. It will then be finely divided and free from lumps. The mixture should then be brought to the boiling point, being stirred constantly, thus forming a thin paste, without lumps.

The paste is conveniently made in twenty-gallon lots, using the common twenty-five-gallon kettles so often found on California ranches; if large kettles are not available, the paste can be boiled in less water and then diluted to the above proportions before cooling. The paste should be strained before using.

**Sulphide of Potash Stock Solution.**—Granulated, or powdered concentrated lye, fifteen pounds; sulphur, eighteen pounds; water to make twenty gallons. Stir the sulphur and lye together in a vessel which will allow plenty of room for boiling. When well mixed, add about one pint of water, placing it in a slight hollow in the mixture, and stir in slowly. The mixture will soon begin to melt and boil, forming a red fluid; stir until the boiling ceases, and then add water to make twenty gallons. This stock solution will keep for awhile, or indefinitely when protected from the air.

**Preparation of the Spray Mixture with Sulphide of Potash.**—Place ten to fifteen pounds of sublimed sulphur, or fourteen to twenty pounds of ground sulphur, in the spray tank with four gallons of flour paste and one to two gallons of the sulphide of potash stock solution; add water to make 100 gallons. For summer or spring spraying after the danger of rains is over, the minimum amount of sulphur is sufficient.

**Without Sulphide of Potash.**—Made as before, except that the sulphide of potash is omitted.

The sulphide of potash is not necessary to kill the red spider of the orange, but will neutralize any sulphuric acid that may be present. One gallon of the stock solution will be sufficient. It can be omitted with the red spider of the almond if the application be made in time; that is, before the injury has become very serious.

The ingredients of the sulphur spray must be kept constantly and strongly agitated while in use. A common garden hoe is a good instrument to stir with in hand outfits, especially where the opening in the tank is small. When used to agitate the mixture the blade of the hoe should be turned up, but when used to scrape the sulphur from the bottom of the tank the blade should be held down as in hoeing.

A power outfit provided with a mechanical agitator is very desirable in working with this spray.

**Spray Nozzles.**—In our experience nozzles of the plug-cock type, which can be cleaned by the simple turning of a valve, are best adapted for the sulphur spray.

**Method of Spraying.**—Much of the success of any spraying operation depends upon the thoroughness of the application. With the sulphur spray, every effort should be made to wet both the upper and the lower surfaces of both leaves and twigs and also the interior of the tree. This is best accomplished by beginning at the top and working the spray well through the upper branches, finishing with the lower parts. This method should be followed around the tree, lapping well over the section sprayed at the beginning.

The sulphur spray is cheap, and material should not be spared.

A symmetrical almond tree 20 feet in diameter will take from twelve to fourteen gallons of spray, and an orange tree of the same size from fourteen to eighteen gallons.

**SUMMARY.**—The old idea that sulphur is a good remedy for mites is fully supported by recent experiments.

Dry sulphur is usually successful as a method of partial control.

Sulphur spraying has been found many times more efficient than other methods of application and is perfectly successful where dry sulphuring has failed.

The efficiency of the sulphur spray has been demonstrated for the red spider of the orange (*Tetranychus mytilaspidis*) in southern California, and for the almond *Bryobia* in Sutter county.

## FORESTRY.

## Fine Points of the California Display at St. Louis.

There is every prospect, says a special writer for the Call, that the exhibition of the California woods at the St. Louis Exposition will be the most satisfactory ever made anywhere. It is the opinion of lumber men that the great timbers and sections of trees will be admired by people from all parts of the world. The variety will be large.

Among the wonders that are to be shown are a log of spruce 44 feet long by 22 inches square, a spruce tree 5 feet in diameter and 100 feet long, a spruce plank



4 feet thick, 11 feet wide and 60 feet long. There will be a great collective exhibit of the representative woods of California.

The credit of getting together this great show of woods belongs to W. H. Mills, chief of the forestry division of the California exhibit. Mr. Mills has, however, met with enthusiastic co-operation on the part of the timber men of California, and he speaks of them in praise.

J. N. Durney, of Siskiyou county, has volunteered to supply one of the monster exhibits. The California Sugar and White Pine Agency, which includes twenty-eight great lumber companies of this State, has with equal enthusiasm responded to the invitation of Mr. Mills and has agreed to do everything that can be asked for the proper representation of this State at St. Louis as a timber growing country. Mr. Durney and the agency offer to give their services and their lumber free of cost. Mr. Mills is of the opinion that the Southern Pacific Company will move the great exhibits free, in view of the advertisement for the soil and climate of California which they will present to all observers.

The 60-foot plank will be polished on one side. In addition to the large exhibits, there will be many others that will prove of interest and advantage to this State. By purchase a collection of 300 specimens of California woods have been secured from Thomas Hatch. With the assistance of the United States Government, through Edward B. Thompson, of Los Angeles, agent of the Bureau of Forestry of the National Department of Agriculture, a collection of all cone-bearing woods of California and of cones will be sent to the exposition as a part of the exhibition for California.

George W. Smith is the president, J. E. Terry the vice-president and Fred F. Sayres the general agent of the California Sugar and White Pine Agency that has taken so prominent a part in putting up a good timber show for California in behalf of the twenty-eight lumber companies that they represent. J. N. Durney is an individual owner of timber lands in the north. He is an old soldier and has been in California for many years.

In the wealth of samples in the Hatch collection are splendid illustrations of the woods of the Sequoia Gigantea, otherwise the big trees of California; of all varieties of redwood; burl specimens that are the wonder of all timber men; sixty examples of the growth of curly redwood; every forest tree of real value is included by sample. Many fruit trees and walnut trees are also on the long and comprehensive list.

Application has been made for space in the forestry department for the California show of woods. The intention of the commissioners is to offer to St. Louis as permanent exhibits, illustrative of California forests, the greater specimens. A novelty of arrangement will be that the great tree mentioned will be cut up so that it can be put together again and so give unquestionable evidence of its actual size and of its soundness.

## THE VETERINARIAN.

### More About Tuberculosis.

The change of views on tuberculosis announced by Dr. Koch after much study and experimentation, says the Breeders' Gazette, was received with some surprise but much respect by scientists, but with derision by some of the pseudo-scientists. Where Koch is best known his opinions carry greatest weight, and when he declared that the danger of the transmission of tuberculosis from bovines to humans was so slight that it might be wholly disregarded, his pronouncement met with the respect which the utterances of a true scientist always command from honest co-laborers. The declaration was so radically at variance with the commonly accepted conclusion as to the disease that naturally other investigators wished to confirm it, if possible, and consequently the Berlin Medical Society appointed a commission to experiment extensively as to the possible transmission of tuberculosis from bovines to humans. Recently that commission made a report to the society through Prof. Kossel which is thus summarized:

"The series of experiments strengthens Prof. Koch's view that animal consumption as the cause of human consumption does not play the role generally attributed to it, but definite judgment requires further experimentation."

The full details of these experiments have not reached us, but the telegraphic report states that in thirty-five cases utter failure characterized the effort to convey human tuberculosis to calves by means of subcutaneous injections of cultures. It need not be pointed out to scientists that the forcible inoculation of germs into the system by means of subcutaneous injections is a breaking down of all of Nature's prophylaxis. To convey a disease in this manner does not prove its contagiousness under normal and natural conditions. But even this forcible inoculation failed. That failure not only strengthens the belief that "the healthy mucous surface affords no habitat for the germs of tuberculosis," but confirms Koch's contention that bovine and human tuberculosis are so different

in character as not to be transmissible. If the disease can not be thus forcibly transmitted it is not at all likely that it can be transmitted in the ordinary ways of infection—by inhalation and ingestion, when the mucous surfaces play their defensive part. Apparently the only evidence which led the commission to qualify its report with the suggestion of further experimentation was the fact that four calves forcibly inoculated direct from tuberculous children were "infected with a disease which resembled a weak type of animal consumption." It is inferred that this commission will continue its work and every indication points to a complete vindication of the position taken by Dr. Koch as to the lack of danger to humans from bovine tuberculosis.

## THE VINEYARD.

### European Grapes and Raisins.

Consular reports furnished for publication in the PACIFIC RURAL PRESS by the State Commissioner of Horticulture.

REPORT OF THE GRAPE OUTLOOK IN ALMERIA, SPAIN, JULY 23, 1903, BY A. E. CARLTON, CONSULAR AGENT.

The exportation of the Almeria grape will begin about the first of September, and at present there is every indication of the largest crop in the history of the province. The total number of barrels is placed at 15,000,000.

The weather up to this writing has been most favorable to the grape and if it continues the fruit will be in excellent condition for shipping.

Already the early grapes or Castizas are being shipped to England, where a higher price than usual is expected, owing to the poor crops in other parts. The prices for these in Almeria are, in consequence, somewhat higher than in other years.

The season is somewhat advanced, and no doubt the first direct boat for America will leave about September 1. The plan for sending the fruit direct to New York met with considerable success, and the local shipping agents inform me that there will be plenty of direct boats this fall, with the usual freight rates.

REPORT OF THE RAISIN OUTLOOK AT SMYRNA, TURKEY, JULY 15, 1903, BY RUFUS W. LANE, UNITED STATES CONSUL.

The coming crop of Sultanias is estimated to-day at between 46,000 and 49,000 tons. Eventual results between these two figures will depend upon state of weather during next month. The vineyards are apparently carrying a show of fruit the like of which has never been before remembered. Consequently there is considerable disparity in the estimate of experts. The figures given above are the most generally accepted. The average yield of the last five years has been slightly under 31,500 tons. The stocks remaining in dealers' hands in Smyrna are estimated at about 160 tons.

Till within six or seven years ago the average annual production of Sultanias amounted to about 34,000 tons, some seasons having yields running into 40,000 tons. The gradual spread of phylloxera tended to cause a steady annual reduction in the production, but the loss by phylloxera has, after a long struggle, been to some extent counterbalanced by the vast plantation of American vines, on which the native plant is grafted. There are, however, large tracts of lands owned by Turks laid out in vineyards with the native vine; this is due to the conservative nature of the Ottoman farmer. In view of the large production anticipated this year it is likely that prices will rule at the lowest level recorded for the past decade.

Red Raisins—Coming crop is estimated at 10,000 tons.

Black Raisins—Coming crop is estimated at 18,000 tons.

### California Vine Disease.

TO THE EDITOR:—The United States Department of Agriculture has so far succeeded in its experiments for the control of the California vine disease that it is thought desirable to place the facts before the public at an earlier date than would be practicable through official channels.

Experiments with grafting stocks have been in progress in the center of a badly infected district for over eight years. These experiments have included the grafting of some 400 acres of vines, the enterprise being conducted by leading viticulturists of California. The facts learned are in effect as follows:

1. The Lenoir vine, when growing upon its own roots, is practically resistant to the named disease, having been known to thrive and bear heavily for fifteen years in the midst of thousands of acres of dead and dying vineyards.

2. The Lenoir vine as a top graft has been known to save tender Muscat roots for several years after all Muscats upon their own roots had been killed by the disease throughout the surrounding region.

3. The Lenoir as a root upon which to graft varieties of grapes very subject to this disease and which are fully exposed to its action has saved tons

of thousands of such tender tops in a vigorous and normal condition for nearly or quite five years, or to the present date, in the midst of dying vineyards, and hundreds of acres of younger vines on the same root are perfectly thrifty and normal under like conditions.

4. New varieties of grapes which have received Lenoir blood through hybridizing have shown great resistance to the same disease.

In addition to the above facts it may be stated that the writer sees no reason to doubt the identity of the vine disease in the Santa Clara valley with the California vine disease. These views are given so that any advantages that may arise through a knowledge of the hardness of the Lenoir vine may be realized by the growers of that viticultural district. The fact that phylloxera also exists in many regions should, however, always be taken under consideration.

NEWTON B. PIERCE,

Pathologist in Charge Pacific Coast Laboratory and Plant Improvement Gardens, Santa Ana, Cal.

### The Great Vina Vineyard.

The grape picking season will commence at Vina in about two weeks, says the Red Bluff Cause. There will be three crews of pickers—a white crew, a Chinese crew and a Japanese crew. In all between 600 and 700 men will be engaged in the picking.

The grapes are now ripening and the vines are hanging full, the crop being much larger than it was last year. There are now about 3500 acres in vineyard, and the vineyard consists of about every variety of wine grape known.

The vineyard has suffered some from phylloxera and shows the disease in some places yet. Many vines had to be taken up on account of this disease, as there is no way to eradicate it except by removing the vines. But the yard was not curtailed by the loss of these vines. New vines and new varieties of grapes have been planted and the vineyard now covers more acres of land than it ever did before. There are probably but few vineyards in the world comprising 3500 acres. Vina has one of these.

## THE STOCK YARD.

### Single or Dual Purpose Cattle.

We have received a copy of an elegant catalogue of the exhibits which the estate of Wm. H. Howard are making this week and next at the State Fair in Sacramento. Our readers know something of the achievements of the Howard cattle from the reference which we made to them in connection with last year's State Fair. The catalogue now before us gives other explicit information and will be prized by all who see the stock this year at Sacramento.

Mr. E. W. Howard, manager of the Howard estate, furnishes the following outline of his views concerning the vexed question of the single or dual purpose breeds:

THE SPECIAL AND THE DUAL PURPOSE BREEDS.—There seems to be a great difference of opinion as to just what is the sphere of usefulness of any one breed of cattle—that is, what limitations are imposed on one breed by the greater usefulness or efficiency of another under certain conditions and use.

In a broad sense this leads to a discussion of the dual purpose breeds on the one hand, the special purpose—dairy and beef—breeds on the other.

For the sake of argument, let us take the Shorthorn on the one hand as being most typical of the dual purpose animal; the Jersey and Holstein of the special purpose dairy breeds; the Hereford and Angus and representatives of the special purpose beef breeds on the other.

THE SHORTHORNS.—What are the limitations imposed upon the sphere of usefulness of the Shorthorn in every sense of a dual purpose nature by the increased efficiency under certain conditions and use of the so-called special purpose breeds? By increased efficiency we mean increased returns in dollars and cents. No one will deny that for the small farmer the dual purpose cow, and especially the Shorthorn, cannot be improved on. This is the sphere of the beef and butter cow, the kind that combines the milking trait with the ability to produce calves which will turn the roughage on the farm into dollars and cents; the kind that when dry will, by reason of their conformity and aptitude to fatten, sell for nearly enough to buy a fresh cow. The Holstein and Jersey, the Hereford and Angus, cannot hope to compete.

Again, we find the Shorthorn used for the production of beef on our Western range, and through the length and breadth of the corn belt, competing with the special purpose Hereford and Angus, in many cases to their exclusion.

IN THE CITY DAIRIES.—Turning to the city dairy, you find three-fourths of the cows Shorthorns or grade Shorthorns. In the large dairies about the city of London you find, almost to the exclusion of the special purpose Jersey and Holstein, what they call the "milking Shorthorn"; and surely if the other breeds were more profitable they would replace in this case the dual purpose breed. I can readily see that there are limitations to the sphere of usefulness of such



special purpose breeds as the Jersey on the one hand and the Hereford on the other. In the first case, the whole makeup of the individual bars it from the slightest consideration at the hands of the butcher; in the second case, the entire lack of consistent performance at the pail confines this breed to the production of beef alone. But does practice show any limitations to the sphere of usefulness of such a universally adaptable and plastic breed as the Shorthorn? Is it not largely a matter of selection, breeding and handling? Does a Shorthorn, to be a profitable dairy cow, have to conform to the conformation of the Jersey, and, by so doing, lose its dual purpose character? I think not. Are there not profitable and unprofitable cows in all breeds, from the dairyman's standpoint, irrespective of their dual purpose or special purpose nature? There certainly are. Are there inherent characteristics common to the Shorthorn which unfit it to compete with the special purpose dairy animal in ordinary use? Decidedly not.

**OVERLAPPING BOTH WAYS.**—Then the sphere of usefulness of the dual purpose breed overlaps both those of the special purpose dairy and special purpose beef breeds to a greater or less degree, according to the breeding, feeding and handling of the dual purpose animal, while in its own sphere it reigns supreme. In a sense, as a result of handling, it becomes a special purpose animal for the time being, but always ready to respond to the opposite treatment.

The advocates of the special purpose breed will say that the individuals of the special purpose breeds are more generally and uniformly adapted to the special purpose. They may be, and theoretically they must be, or what would be the excuse for the existence of breeders and the recording of breeds and their performances? The strength of the dual purpose advocate lies in the wonderful adaptability—one might say elasticity—of the Shorthorns, a breed that has competed successfully with the special purpose breeds in butter making, and at the same time produced the champion steers at the fat stock shows.

## THE DAIRY.

### The Creamery Convention at Sacramento.

All in the dairy interest who go to the State Fair next week should arrange to attend the fourth annual convention of the California Creamery Operators' Association, which will be held in the State Fair Pavilion on September 10th and 11th. On Thursday, September 10th, at 10 A. M., the president's address will be given by E. H. Zimmerman of Watsonville, and there will be a report of the secretary-treasurer, Wm. H. Saylor of San Francisco.

"Some Recent Evolutions in Creamery Machinery"

will be the subject of Henry F. Lyon of Alameda, and followed by discussion by W. T. Mitchell of Salinas and S. N. Nash of Sacramento.

Hon. Peter J. Shields, president California Dairy Association, Sacramento, will speak on "Some Essential Needs in California's Dairy Development," followed by discussion by G. W. Kneib of San Francisco and C. C. Ridgway of Porterville.

On Thursday afternoon there will be "The Selection of Cows for Dairy Purposes," by Prof. W. L. Carlyle of Ft. Collins, Colo., followed by discussion by N. A. Chisholm of Jacinto and Peter Krog of Stockton.

"What We May Learn From Competitive Butter Contests" will be presented by George G. Knox of Sacramento; discussion by Warren Myers of Woodland and W. M. Turner of San Francisco.

"Recent Developments in Mechanical Refrigeration," M. W. Stringer of San Francisco; discussion by H. F. Lyon of Alameda and F. H. Armsburger of Stockton.

On Friday morning there will be the announcement of scores in the butter contest and remarks by W. H. Roussel of San Francisco, one of the judges.

"The Skimming Station in Its Relation to the Creamery," E. H. Hageman of Fresno; discussion by George E. Peoples of Fresno and F. R. Peacock of Hanford.

"How Can Our Dairy Quotations be Made More Satisfactory to Shipper and Dealer?" will be opened by Thomas Hodge of San Francisco; discussion by I. C. Bateman of San Francisco and A. B. Evans of Fresno.

"Dissemination of Cattle Diseases Through Creameries" will be discussed by Dr. A. R. Ward of the University of California, Berkeley.

On Friday afternoon, September 11th, the opening subject will be "Pasteurization Applied to Creamery Work," by Prof. E. W. Major of the University of California, Berkeley; discussion by W. F. Schulz of San Francisco and G. G. Knox of Sacramento.

"California at the St. Louis Fair" will be the subject of an address by one of the California World's Fair Commissioners.

"Dealing With Cream Shipping Patrons" is the subject of H. P. Glasier of Oakland; discussion by E. H. Hageman of Fresno and Fred Leiser of Dos Palos.

The annual banquet of the Association will occur at 7:30 P. M. September 10th.

## THE FIELD.

### Spraying for Potato Blight.

This is the time of the year when the results of the blight in the potato fields is distressingly apparent in reduction of crop and diseased tubers, and it is the time also when suffering growers resolve to do some-

thing next year to prevent it. The following is the way it is done in Maine, according to account which E. E. Parkhurst of Aroostook county gives the Orange Judd Farmer—the way to proceed with the Bordeaux mixture:

**MAKING THE SPRAY.**—We prefer stock solution as follows: Put twelve pails water in a barrel. Put in a burlap sack thirty-six pounds sulphate of copper and suspend it in the water. In six hours the copper is dissolved ready for use. Weigh out thirty-six pounds lime and slack it slowly, but do not drown it. After it is well slacked, add to it eighteen pails water and strain through cheesecloth, or a fine sieve. This gives us enough of the solution for six barrels of fifty gallons each. Put two pails of the copper solution and three pails of the lime solution in the sprayer barrel, fill the barrel with water and it is ready for business.

**APPLICATION.**—We use a one-horse sprayer, which sprays four rows. One man can prepare his mixture and spray twenty acres per day. Eight years ago I first commenced using Bordeaux mixture. The first two years it was applied with a one-horse two-rowed sprinkler. There was great loss of material, as one barrel of water would cover only one acre and that imperfectly. The first sprayer I used had some defects in its manufacture, but did much better work than the sprinkler.

A sprayer to do perfect work must have a pump strong enough to carry a pressure of sixty to eighty pounds. The air chamber must be large enough to keep up the pressure after the pump stops, so as to throw a fine spray for twenty to thirty seconds. We use the Vermorel nozzle with the finest caps for the first two or three applications, and use the coarse nozzles after the vines get so large so as to nearly or quite cover the ground. Early varieties of potatoes need at least four applications, commencing when the vines are 6 inches high. One pound Paris green added to each barrel of water at first application will kill all the potato bugs.

An inquiry among some of the leading potato growers brings out the following facts: When Bordeaux was applied thoroughly four to six times, fields were much benefited, especially where spraying commenced while plants were 3 to 4 inch high. As a rule, application is not made early enough. There was less rot and increased yield in well sprayed fields.

The common method of preparation followed by E. L. Cleveland and other growers in southern Aroostook is to use five pounds each of copper sulphate and fresh lime to fifty gallons water. They usually prepare the stock solution by weighing out fifty pounds of the copper, which is placed in the top of a barrel containing thirty gallons water. Slake fifty pounds lime and add water to make up thirty gallons after straining. Three gallons of each solution is added to forty-four gallons water, stirring thoroughly while it is being poured in. Other growers use six pounds each of lime and copper sulphate.

**THE CLIMAX**

Fills the **SILO**

**BUY IT**



**Climax MOUNTED Ensilage Cutter**

With Automatic Delivery.

Write for description and prices.

**G. G. WICKSON & CO.**

123 NO. MAIN ST., LOS ANGELES. 34-36 MAIN ST., SAN FRANCISCO.  
141 FRONT ST., PORTLAND, OR.



**THE SILO**

Fills the **CANS**

**TRY IT**



**OUR CANS HAVE ADVANTAGES**

in construction which you will appreciate, while our prices are the lowest.



## Agricultural Review.

### BUTTE.

**FINE SPECIMENS OF GRASS**—Chico Enterprise: John Morris has forwarded an exhibit of grasses to the State Commission, as part of California's display at the St. Louis Exposition. The grasses were grown by Jacob Moak on his ranch in Big Meadows and included three varieties. The Kentucky Red Top was introduced into the Meadows by Mr. Moak thirty years ago. It is now widespread over nearly all the meadow lands of that rich valley. The specimen is 60 inches tall, with long rich heads of silk-like texture. A cluster of timothy 50 inches in height shows full, close-set heads and strong stems. Perhaps the most interesting grass was some Alsack clover. This was introduced by Mr. Moak from Michigan a few years ago. It is said to make a luxuriant growth in the Meadows and is becoming popular as feed for cattle. The specimens shown have stalks about 40 inches long and very large leaves and rich heads.

**CLUSTER OF PRUNES SIX FEET IN LENGTH**—H. C. Styles, who is collecting samples for Butte county's exhibit at the St. Louis Exposition, secured a choice cluster of prunes from the George Thomasson place. The fruit is on a branch no larger than a man's thumb, the cluster extending along the branch for nearly 6 feet in a solid mass. The entire cluster weighs thirty-nine pounds.

**CHOICE PEACHES**—Orville Register: J. F. Waterhouse is making collections of fruits and vegetables for display at the State Fair and obtained from T. J. Kelly some mammoth orange cling peaches. The whole collection was very large fruit, but the biggest were already being prepared, so we could not measure them. The ones measured were 12 inches in circumference and weighed fifteen ounces. The largest ones were said to weigh a pound and a quarter.

### FRESNO.

**PEACHES NEARLY ALL SOLD**—Democrat: A prominent packer states that not more than 5% of the peach crop in the valley is unsold. The conditions are unusual, for the fruit has been nabbed at high prices that have continually advanced. There is reliable information that in the last two or three days contracts have been closed by some of the packers at 5½ cents for choice Muir peaches. This is the top notch for the season, and some of the buyers are reluctant to go that high.

**LARGE FIG CROP AND FAIR PRICES**—Fig growers are receiving 3½ and 3¼ cents, and the crop is large, so they will realize good profits. When the packing houses are all running there will be about 1000 persons employed.

**LIVELY PEACH CUTTING**—Reedley Exponent: The best reported fruit cutting done this year was by Roy Berryhill of Del Rey, who cut twelve boxes of orange cling peaches in 2 hours and thirty-five minutes. He also set up his boxes and took away his trays.

### KERN.

**ONE PEACH TREE'S OUTPUT**—Bakersfield Echo: A. M. Alston, the superintendent of the Golden Gate orchard near Wasco, says they have finished cutting their early peaches, the pack amounting to 2000 boxes. They kept account of one tree of Susquehanna peaches and found that it yielded 27 boxes at 45 pounds to the box, making a total of over 1200 pounds of fruit for the tree.

### KINGS.

**BLASTED ALFALFA SEED**—Hanford Sentinel: K. A. Floden of the Cross Creek district says his alfalfa seed crop is very poor this year, as so much of it is blasted. He had figured that he would have a very large crop, but upon investigation he found that a great deal of it was badly blasted; that is, it had all dried up before fully ripening.

**THE SORGHUM CROP**—C. Clow is getting ready to make sorghum syrup again. He has disposed of all that he made last season and he has raised cane enough this year on his ranch to make 1000 gallons or more of syrup. There is quite a quantity of sorghum grown throughout the county that he will also make up.

**FINE PEACHES**—N. Hansen has some of the largest orange cling peaches that we have seen. His trees of this variety this season yielded him forty tons, which he sold for \$20 a ton for shipment south. He sent a box of twenty peaches to a friend, the twenty peaches weighing just twenty-four pounds.

**SHIPPING PEACHES SOUTH**—Hanford Journal: J. N. Hoyt of Hanford, representing the Pasadena Canning Co., has already shipped this season twenty-five carloads of orange cling peaches to that

company, and he expects to continue shipping other varieties. He paid \$20 a ton for the orange clings.

**WOOL CLIP**—The fall clip of wool is nearly all in in this part of the State, and in quantity has been fair, neither very heavy nor very light, but a little short of the usual average production. The prices being paid range from 6½ to 9 cents per pound. The demand is good and nearly the entire clip has been sold already. Feed is scarce and bids fair to be very high this winter and spring. Pasture is very hard to get. One man had eight head of horses to pasture, and he hunted two days and could not get pasture for them, a condition of things very unusual at this time of year.

**DIPPING HOGS FOR CHOLERA**—Hanford Sentinel: M. Bassett has been losing quite a number of his hogs with the cholera and has tried several remedies, but none of them seems to have abated the disease until he commenced to dip the animals, and now the animals have stopped dying and presumably are getting along all right. The solution used is 12 pounds of sulphur, 12 pounds of lime, 5 pounds of carbolic acid and 2 pounds of formalin, mixed in a trough 16 feet long, 4 feet deep and 2 feet wide, with enough water to make it about three-fourths full. The lime and sulphur are boiled together and mixed with the other two and then poured into the water. When everything is ready the hogs are driven into a trap and dropped into the solution and have to swim the length of the trough to get out.

### LOS ANGELES.

**CORN DOING WELL**—Monrovia Messenger: Fred Lummer has a 20-acre field of corn growing on his ranch near San Gabriel river. It has received no irrigation and yet will yield from 75 to 80 bushels to the acre, as on each stock are from 15 to 20 ears of well filled corn. The crop is said to be the best in the San Gabriel valley.

### MENDOCINO.

**INCREASED HOP YIELD**—Ukiah Dispatch-Democrat: W. A. Ford finished picking one 6-acre square of hops early this week, and on comparing the weights with those of the same piece of ground last year, found that this year's weights exceeded those of last year by 5300 pounds.

**HOP PICKING RECORD BROKEN**—Amiel Weselsky broke the hop picking record last Tuesday by picking 733 pounds of hops. Amiel did his remarkable work in Sanford Bros. hop field, and did good, clean picking. There are some other splendid pickers in this field who pick from 350 to 500 pounds per day. Little Alvin German, only 7 years old, picks from 60 to 75 pounds per day. The hops, on account of the absence of foliage, are easily picked this year.

### SACRAMENTO.

**LARGE FIELD OF HEMP**—Union: Thomas & Ettlinger have 400 acres in hemp on Ryer Island that is believed to surpass anything of the kind ever seen in the United States. To venture 50 feet into the great sea of hemp means to get lost. The stalks raise 8 and 10 feet above the head of the average man and the growth is very thick. Messrs. Thomas & Ettlinger go about the work scientifically. They have all of the latest improved machinery for harvesting the crop and preparing it for market, and the market is ready to receive it. The hemp is pulled and piled in bundles, but instead of the soaking necessary in the East, it is allowed to lie until at least 6 inches of winter rains shall have fallen upon it, when the pulp is sufficiently decomposed to separate it from the fiber.

### SAN BENITO.

**ORCHARD IRRIGATION**—Watsonville Pajaronian: Chas. Smith, who owns the Stony Ford ranch, near Aromas, has used his pumping plant to good advantage in his 120-acre apple orchard this season. The result has been marvelous. The trees look rich, fresh and vigorous, and the fruit is large and attractive. Supplied with moisture at the proper time the trees have not been taxed in bringing forth their burden of fruit, but have at all times been kept in a healthy condition.

### SAN JOAQUIN.

**POTATO GROWERS ON VELVET**—Stockton Record: The Jones tract lies between Middle river and Holt on the south side of the Santa Fe, and consists of about 6000 acres of recently reclaimed tule land. The entire tract this year has been planted to potatoes and the yields have been something enormous. With spuds over a dollar a sack, even touching \$1.15, and the crops running about 200 sacks to the acre, the potato raiser is making money. The fresh, newly reclaimed soil is particularly adapted to tubers—that is, for the first three years. After three years the soil runs out and the potatoes become scabby. The first

crop on reclaimed land is always the largest. In some spots on first year soil the tubers will run even to the enormous yield of 250 sacks per acre. Charles Moreing, the well-known potato grower, who has about 900 acres this year, recently made a test of his very poorest land. Even that produced 135 sacks to the acre.

### SANTA CLARA.

**BUSY TIMES AT THE CANNERIES**—San Jose Mercury: The Los Gatos canneries are operating day and evening on Bartlett pears and lemon cling peaches. Help is a little short and more women are required. Those who are at work are making from \$2 to \$3 per day right along and are well satisfied with their condition. The next two weeks promise to be the banner weeks on cling peaches, as very large quantities have been purchased and they will come in with a rush. Shipping still continues in carload lots.

### SANTA CRUZ.

**GOOD APPLE CROP**—Watsonville Pajaronian: The apple crop will be much heavier than last year, partially by reason of the increased bearing acreage, but in a very large measure to the exceptionally large crop of Newtown pippins. The Bellefleur crop will not be so large as last season, owing to the dropping of young apples from the trees early in the summer.

**INCREASED HOP YIELD**—The approaching harvest of hops gives encouragement to growers. The crop is first-class in quality and prices promise a profit to growers. The tonnage will no doubt be larger in the valley this season than it was last. W. McGrath's crop in Casserly district is said to be the finest ever grown in this section.

**SPRAYING WITH WATER**—Professors Woodworth and Clarke have arranged to spray the apple trees in Pajaro valley with water this season shortly before the picking begins. This will relieve the fruit of the unsightly appearance of lime caused by spraying. A lime-covered apple is not a good seller, and by spraying with water the fruit can be cleansed.

**TRYING TO KILL THE EGGS**—Professor Clarke placed a few boxes of apples in his recently constructed fumigation receptacle yesterday and turned hydrocyanic gas on them. The fruit was left in the receptacle over night, and if no injury results to the apples a thorough test of this gas as a means of destroying codlin moth eggs will be made in a short time and a consignment of apples thus treated will be sent to China. Such a remedy has proved of great value in destroying the eggs of other pests and it is hoped that the same good results may follow its use against the moth eggs.

### SONOMA.

**HOPS**—Santa Rosa Republican: Hop picking this season will be easy work owing to the unusually light foliage. The yield will not be as heavy this year owing to the long absence of rain and the prevalence of scorching north winds. There is considerable increased acreage, however, which will nearly bring the yield for the county up to the average. Lice threatened the destruction of much hops this season, but the recent spell of hot weather has driven them off the vines. Dealers have this week offered up to 23 cents for hops. There is a strong disposition among local growers not to contract this year. Many will cure their hops and sell straight when baled, preferring to take chances on a high price rather than

accept good rates now. The difference in many cases last year between contract prices and actual value of yard yields amounted to a handsome sum.

### TEHAMA.

**BIG SALE OF BEEF CATTLE**—Red Bluff Sentinel: John Finnell recently closed one of the largest sales of beef ever made in the State, the deal amounting to about \$125,000, for 2500 steers, the Western Meat Co. of San Francisco being the purchaser at 8 cents a pound, the steers to be delivered at the rate of 400 a week.

**A BIG BARN**—Red Bluff News: B. A. Bell of the Gallatin ranch says they have commenced filling the new barn with hay. The barn is 60 feet wide by 100 feet long and is 22½ feet high to the eaves, probably the largest barn in the county.

### YUBA.

**HOP PICKING FINISHED**—Marysville Democrat, Aug. 28: The hop picking season, so far as the orchards in the vicinity of Wheatland are concerned, was ended Thursday, and the hundreds of people who have been at work there are receiving their money. Eight years ago six weeks were necessary to complete the work, but the latest improved dry houses now shorten the work.

**HOPS IN GOOD DEMAND**—Bee: The outlook is promising for prices on hops. Heavy sales have already been made. The top figure so far was when Durst Bros. sold a line of 500 bales at 22 cents per pound f. o. b. Wheatland. Growers are asking as high as 23½ cents per pound for round lots of 500 bales, and expect to get their price within a few days. Twenty-two and one-half cents could be taken, but with the outlook in Oregon not promising and with a short crop in England, and all American dealers and brewers anxious for hops, it seems as if California growers should, within the next thirty days, be in a position to take 25 cents for their hops.



Warranted  
to give satisfaction.

## GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and  
positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

## Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN, Modesto, California.



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by FIELD FORCE PUMP CO., Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.



## THE HOME CIRCLE.

## Breaking the Ice.

We had some offish neighbors once that moved in, down the road. We reckoned they was about the proudest folks we'd ever knowed. An' when we passed 'em now an' then we held our heads up high. To make dead sure they couldn't snub us if they was to try. It really made me nervous, so I jes' braced up one day. An' thought I'd go ahead an' show my manners, anyway. On Sunday, 'stid o' turnin' round an' gazin' at the view, I looked at them an' says, "Hello!" An' they says, "Howdy do!"

It wan't the cold an' formal greetin' that you've sometimes heard; They smiled and said it hearty, like they meant it, every word, It's solemn to reflect on what we miss along life's way. By not jes' bein' natural an' good humored day by day.

There's lots o' folks who fling the simple joys of life aside Because they dread the shadow of their own unconscious pride. And nine times out o' ten you'll find the rule works right an' true— Jes' tell the world "Hello!" and it'll answer "Howdy do!"

—Washington Post.

## A Coward's Courage.

"Don't you hear it, Mark—that light step, step behind us? Talk of the quiet of the woods—there is no such thing."

Florence Lindsay peered over her shoulder, searching the brush-shaded hillside for the disturbing feet.

Mark Lindsay sprang from his couch of brown leaf mound, saying: "No, Mme. Fine Ear, I hear nothing, but will gladly search for the depredator."

"You'll not find him that way," said Florence. "We are the intruders, disturbing the woodland housekeeping. Sit down again, Mark—I want to tell you something."

"Ha! There he is! Look at him, Flo—entirely substantial and harmless, my superstitious wife, I do assure you. There he goes. He has added wings to his steps and taken a coign of vantage where he can spy upon us. Quite handsome for a magpie. . . . Glad to make your acquaintance, sir." Mark bowed with profound respect in the bird's direction.

Florence laughed with relief and fun as the saucy-looking bird settled himself on a bough high above their heads and studied them with sidelong scrutiny. "He needs only spectacles to look quite professional. But come, Mark, I want to tell you something I never told before."

"So you have reserved confidence these six long months of our union," said Mark, teasingly, as he returned to his place among the brown leaves.

The lady studied the place, looking up the length of tree boles and out over the mystery of wood depths far below, sighing a little that there should lurk about it all a spirit of unrest.

"I am a coward, Mark," she abruptly announced, "afraid of all sorts of things, but most of all sounds that I can't define."

"Don't believe it of yourself—you, a fearless horsewoman, and timid!" Mark was not disturbed by the confession.

"A fearless horsewoman in the park and in the company of—well, yourself, for instance—but you know this is almost my first experience in the real wilderness of out-of-doors. It has always been"—a touch of sarcasm in her voice—"dusted and aired in the summer resorts. But here, only a brief climb from the snow line of our Sierra Nevada range, it is most superbly new."

"Your fear doesn't spoil your pleasure, then? You like our camp?" Mark was sleepily solicitous.

"Camp is all that one could desire. Your friends, the Dennisons—it is good to know them—are wholly willing to foster the latent barbarian in us."

"Fred's a fine fellow," Mark idly assented, whistling to the policeman

magpie. "Wish his health was better. But he must get well here if anywhere. This claim of his is over 3000 feet above the valley. The stream running through the place comes from the heart of the snows; the canyons are full of game, and, best of all, to my notion, the resinous odor of the pines all about him. I have great faith in pines. But tell me more of your vile courage, Mrs. Mark. Perhaps something can be done about it. You don't look like a fearsome person."

"I'm vigorous enough, surely," Florence straightened out her fine shoulders and held out her well-muscled arm. "I have friends who are little more than bundles of nerves, whose bravery is a thing for man himself to envy." She lightly sighed, adding: "It's a desperate flaw in a character—this cowardice."

They started many a little bustling creature from his feast of grasses and juicy roots, and awakened a sleepy horned owl, just to see him blink his yellow eyes. Florence bent quite sportsmanlike over a coon track that Mark traced in the wet mould on the bank of the stream.

"He was here lately," said Mark, studying the bear-like impression. "Something disturbed him, for he is a night prowler, like all the rest. That reminds me—I must leave long before daylight. Andy—Fred's man—goes with me, and I hope to bring you a handsome pair of antlers. You will study out more woodcraft by yourself, and let me know of your progress."

"It will be lovely, Mark, but—the pages are many, and—yes, I'll have a good report for you. I shall ride down to Oakview in the morning if Mrs. Dennison needs anything."

"Well, start early, if you go, so as to get back before the hottest part of the day. Jess carries you well and will make good time. I am glad you use the cross-saddle."

"Lift up the latch and the bolt will fall," sang Florence to an improvised air.

"Look out for the wolf, my child," admonished Mark.

"Because the green huntsman will be over the hills and far away?" she asked, a hint of reproach in her question.

Night fell over the mountain camp—builded about it, rather—and set its vault with stars. Florence Lindsay, looking upon it, felt its vastness lift her out of all littleness and make her a part of its sentimentality.

Somewhere in the buoyant eternity that cradled her she partly woke to find the constellations slipping westward, and heard Mark softly whistle to the dogs. They were off then, and morning was at hand. Then she slept again.

When at last her sleep-captive brain threw off the night enchantment, Florence roused to find Mrs. Dennison at the tent door, calling in an anxious tone.

"What is it, Carrie?" Florence asked. "Is your husband ill?"

"Oh, Florence, I'm so alarmed about him," answered Mrs. Dennison. "He has symptoms of one of his old attacks. We had hoped that they were quite conquered, he had been so much better here. I'd give him one of his powders, but there are only two left, and he ought to take them frequently to prevent the trouble. Can you ride down to Dr. Winter's—"

"There, there, you dear, worried woman!" Florence soothingly replied. "Of course I'll go. Isn't he asleep now? I thought so. You go and do as wisely. I'll soon be on the way."

A few moments at the tent door to gather in the strength of the hills and the calm of the morning, and Florence turned to the new duty. Breakfast and the directions from Mrs. Dennison delayed briefly, and she was soon riding through the pine forest, where the night coolness yet lingered. She looked for the magpie to give him greeting, and, as her ready hearing caught the murmuring wood sounds, she called all her powers of persuasion to her aid to invest herself with an invincible arm of courage. No more terrors for her! She would be as brave as Britomart; and, holding her whip like a lance at charge,

she rode boldly to the Caldwell gate, as if it were the only port of a Castle Dangerous. A moment or two for studying the fastening, till she could open and close the gate with ease, then out down the mountain road.

It was early when she saw below her the straggling streets of Oakview, almost regretting that it was so near.

Arriving at the drug store, a little difficulty arose. Dr. Winter was away and the boy in charge knew nothing of Mr. Dennison's powders. Riding to the doctor's house, she learned from Mrs. Winter that the doctor was operating upon a patient at Powell's, seven miles to the north, and did not expect to return before 1 o'clock.

It was well past 2 o'clock when the doctor drove up, flung the reins to the boy who stood waiting, and, turning to help a man in the garb of a farm hand from the buggy, calling, as he did so, for hot water and antiseptics.

"Steady, there, my man," he said. "Here, lean on me. Marcia (to his wife), give him your arm on the other side."

But Florence was nearer and afforded her strong young shoulder to the wounded man's support.

"Scythe wound in the forearm," briefly stated the doctor. "I saw the accident, but was able to tie only a tourniquet, and must set a few stitches. Mrs. Lindsay, can you stand the sight of blood?"

The man was seated on the shaded porch, and both women mechanically followed the doctor's directions, moved to deftness by his will.

"Ah," muttered the doctor, as the blood spouted with the loosening of the tourniquet. "Radial artery; ulnar, too, I suspect. Stand still, Mrs. Lindsay," for the bright streams shot out and dyed one side of her linen riding habit.

With a steady hand, Florence held the arm motionless at the required angle and told herself that want of courage was simply unusedness and inexperience. If she knew more she would not be afraid.

Dr. Winter worked rapidly, and Florence held her machine-like pose until a splint and sling kept the arm motionless. Then the doctor became the genial host and turned cordially to Mrs. Lindsay.

"I'm glad you came to-day. Marcia and I are in need of a little of your society."

Florence shook her head and told him her errand.

"Fred Dennison! Poor fellow. I hoped much from that chloralide for him. That and the mountain life will put him on his feet. By jove! The stuff is coming out on the late train, and it will take me an hour afterward to get it. You'll have to stay and take it up in the morning."

He hurried to his office for a possible grain or two of the precious drug.

Florence felt that here was a test for her new panoply. If she conquered this time she would exult in future fearlessness. It would only be early dark by the time she reached camp, where her refuge waited. She turned to Mrs. Winter, who stood ready to sponge the red stain from her skirt.

"I'd lend you one," said the lady, "but I've not learned to use the cross-saddle, and there's no time to wash this properly if you must go," looking at the shadow of the mountain above the town.

The warm air was burdened with the odors of the operation, and Florence felt for a moment as if she had been under the knife herself. It was with relief almost painful that she heard the whistle on the evening train.

The shadows were pointing long fingers down the darkening canyons as she rode up the mountain path, leaving the last straggling farm well behind.

The first quiver of fear stole upon her when a great gray owl winged its noiseless flight to its lookout on a dead pine tree on the mountain across the canyon. Laughing lightly, she spoke to her horse:

"Bear me well, good Jess. We may find an armorer on the way who will touch the weak spots in my links of mail and make it strong again."

But the ever-lurking terror leaped

upon her like a thing of life bred by the shadows, when Jess, snorting with sudden fright, and quivering in every tense muscle, started on a gallop up the steep road. The instinct of the trained horsewoman led Florence to rein the good creature to a rapid walk before she dared look through the gathering dusk for the cause of the animal's sudden fear. Jess answered perfectly, but pushed on at a rapid pace, knowing the homeward way. The Caldwell gate was near, and beyond it through the pines was a fairly level stretch before the road became hilly again toward the terrace where the camp stood.

A late streak of pale sunlight gleamed through a narrow gap on the other side of the canyon, and Florence, forcing herself to look down the wooded slope at her left and search the stream, saw a movement through the brush on the opposite mountain slope. While she watched with senses keenly alert, there lightly leaped across the narrow path of light a long, tawny body. The shadows beyond received it, but not before Florence, clutching Jess's mane with her rein-hand, knew her danger. A mountain lion was following them, falling back, rounding a bowlder, gliding through the trees, but never hesitating, never turning away. For one moment a numb agony held her stricken, but she was presently surprised to find herself growing resentful.

Why should a woman be so much more helpless in the face of danger than a man? Why, for instance, had she not been taught to measure distances? How could she know if the lion might take the space down the stream and up on her side of the canyon in three leaps or five? Now she knew how a maniac felt when he laughed. Was there no escape? With new dismay she recalled the stain on her skirt, feeling that this had led the great cat in pursuit.

She looked up into the bending sky, so soon to be star-jewelled, and with a woman's prayer for help rode on toward the Caldwell gate. Its white parallels, faintly gleaming far ahead, might lead to refuge, or—but she fought back the hateful thought.

Lion, puma or cougar—it mattered little what name it bore—the body of grace and vigor, of flexible muscles and power without pity, followed the scent in the air. In and out it sped onward among the bushes, startling to terror the furry little people of the forest; but the tawny cat had nobler game in sight. Once he stopped and held one forefoot back. There had been killing near; there were blood stains, the blood of deer, and then, too, dogs had crossed his path. He snarled defiance at the last discovery and crept on with greater caution.

Mr. Lindsay and the Dennisons' man had passed that way some time before, carrying a deer between them. At the stream they had stopped to rest, and, in the fore-shortened perspective with which poor, blind humanity sketches its own destiny, decided to separate, Andy, with part of the game, taking shorter, though rougher road to camp. He would be in time for his evening duties, and Mr. Lindsay would follow the rugged trail from the stream to the Caldwell ranch, looking for small game on the way.

The young hunter felt the keenest pleasure in the witchery of the place, and wished that Florence were beside him that they might watch the changing hues till the day deepened into that most enchanting hour between daylight and nightfall. She could not but lose her fears in learning to lie close to nature's heart. He would put her hand on the face of the great rocks and show her how to follow the running game.

He trudged comfortably onward, following a hare or two, but too wholly at peace with the world to take life again that day. He was glad that the dogs had gone with Andy, and pushing back his hat and readjusting the game that he carried, enjoyed to the full contentment of the successful hunter. On through the brush he went, feeling the trail with a woodman's instinct, till a whippoorwill gave warning that night was not far away.

On through the brush kept the



cougar also, reaching at last the resting place at the stream where the two men had separated. There was a surfeit of blood in the air. He had distanced the first faint scent and now stopped to drink where the shallow water was shaded by overhanging boughs. It was a good place to cross, even for a cat, and on the other side the scent grew fresher. Here to the left was the trail of the dogs again. A step or two back was a later leading, and this he followed warily, lying close to the ground and listening, but following unerringly in Mark Lindsay's footsteps.

While making what speed she might toward the gate that was her first goal, Florence suddenly drew rein, a sure foreboding overcoming for the moment her own terror. Mark was in danger—how, she could not know, but somehow ahead and not far. With her inner vision taught to penetrate the mysteries that had so long disturbed her, she rode on with a look of one set apart for supreme test.

Up the mountain side a man was slowly climbing toward the road. The trail that he followed led directly to the gate. It was Mark, and there, but a pitilessly short space behind him, was the lion. With a throb of exultation came the thought that she could save her husband, and turning her horse from the road she forced the obedient creature down the mountain side.

"Steady, Jess, and never fear. We can ride between them."

"Florence," shouted Mark, turning in amazement, as he suddenly became aware of her presence and saw her running away from the road.

"Turn quick and shoot, Mark," she shrilly called, the hunter instinct waking within as she kept her eyes on the game that crouched back against a bowlder, startled, yet defiant.

"Back Jess, to the left then!" Mark's resonant voice thrilled with the cry of the conqueror.

As the beautiful mare crept backward almost on her haunches, two rifle shots rang out in quick succession. A long, terrible cry rose into the dusky air, and the body of the lion leaped and fell backward, clawing and tearing its undirected way through the dry brush, until it lodged against a tangle of wood growth and lay silent, a dark shape of death.

"That was well done, my brave wife!" Mark's eyes and voice were eloquent as he put out his strong arms to lift her from the saddle. With the joy of conquest lighting her face, Florence walked beside her husband till they came to the Caldwell gate.

"Let me open it." She sprang forward and swung the gate wide till they passed through, Jess following unled, then closed it with a clang that rang triumph through the whispering forests.—New York Commercial Advertiser.

#### Humorous.

Friend—"What's the matter, old man? Doesn't she return your love?" Jilted One—"That's just the trouble. She returned it and told me to give it to some other girl."

"Have you brothers and sisters, little one?" "Yes, two." "Are your father and mother alive?" "Yes, and we also have a grandfather." "How old is your grandfather?" "That I don't know, but we've had him a very long time."

"Well, there is one thing that can be said of Crawford. Although he went fishing himself on the Sabbath he didn't let his little son fish." "I am glad to hear that. Was the boy at Sunday school?" "No, baiting the hooks."

"Are you sure Mr. Spoonmore," she asked him after a moment's pause, "it isn't my \$25,000 legacy, instead of me, that attracts you?" "I am, Miss Higsworthy," he answered, with a strong feeling. "I thought it was ten times as much as that!"

"The house that is to stand," said the wealthy young Sunday school superintendent, "must be founded on a rock." "I know it," said little Johnny, "that's what pa says, too; but what grinds him is that a few other people have most of the rocks."

#### Hints to Housekeepers.

If the hands perspire freely, powder them well with any good talcum powder, and there will be little danger of injuring the gloves.

The most attractive ways of preparing potatoes for salad is to cut them into little round balls with a potato cutter and then boil or steam them until tender. Use equal parts of potato balls and celery cut into cubes, with French or mayonnaise dressing or both, i. e., marinated with the former and served with the latter.

A woman who has succeeded in reducing the flesh about her waist to artistic proportions recommends this as an exercise: Lie flat on the back upon the floor. Fold the arms and rise to a sitting posture. Then lie down again and raise one leg as high as possible, then the other. Repeat each movement morning and evening until tired.

For green tomato soy cut green tomatoes into thin slices. Then place in a stone jar, alternating each layer with a layer of sliced onions and sprinkling of salt, allowing one dozen onions to a peck of tomatoes. Let stand over night, and in the morning drain off all liquor and place in the preserving kettle. Add one and one-half ounce of black pepper, one ounce whole allspice, one ounce mustard seed, and one-fourth pound of ground mustard seed mixed to a paste with a little vinegar. Pour in vinegar enough to cover and let them simmer until thoroughly soft and well blended. Pack in stone or glass jars and let them stand for six weeks before using.

For an excellent cold dish for breakfast, boil a calf's head slowly till tender, then cut the meat in thin slices. Make some good stock of the bones, skimming it carefully, and flavoring it with vegetables, herbs, etc. Next day make the pie thus: Have some slices of hard-boiled egg, and lay them in the bottom of a greased pie dish, and on these put alternate layers of meat and jelly, more eggs, and so on. Flavor and season the whole, and continue till the dish is full. Cover with some good puffpaste, and bake till the pastry is done. When cold, carefully cut off the pastry, and place it upside down on a cold dish, and turn the contents of the pie onto it. This makes quite a pretty mould, and is very tasty.

Brunoise soup is a famous French broth thickened with vegetables, and is easily made, if there is veal stock in the house. Peel and cut into small squares three medium-sized young summer carrots, one young turnip, half an onion and two leeks. Simmer the vegetables with two heaping tablespoonfuls of butter for several minutes, then add three pints of rich veal stock. Season the whole with salt and pepper and let simmer for three-quarters of an hour. Then chop well one head of lettuce, a handful of sorrel, a few branches of chervil and the same amount of parsley, and add them to the soup. Eighteen minutes before serving add also a cupful of well-washed rice and let it boil until the soup is required. This is one of the best August soups, the chopped herbs adding a grateful touch of green to it. Instead of rice a slice of toasted bread may be served with each plateful, if preferred.

#### Wants Better Meat Cooks.

TO THE EDITOR:—Your "Hints to Housekeepers" and "Domestic Hints" contain useful information, but in my experience the education most needed by the American housewife is in the line of meat cooking—how to roast, broil and make good, wholesome stews and soups. There is too much frying pan and grease used for the health of the farmer's family.

J. F. CUNNINGHAM.

Mountain View.

"Young man," said the wealthy Mr. Pompus, "you ask for my daughter's hand. What expectations have you?" "Why," replied the young man, in a somewhat surprised tone, "I expect to get what I am asking for."

## GLENN RANCH, Glenn County, :::: California FOR SALE In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

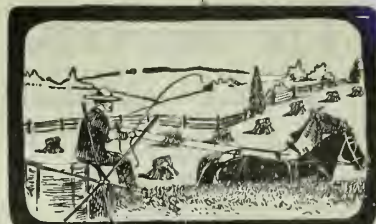
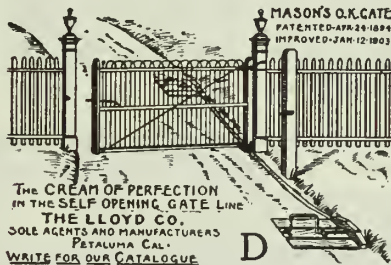
## To Stock and Dairy Men.

We have for sale a ranch of 421 acres, all fenced, on the Tuolumne river, 1 mile from railroad station, 5 miles east of Modesto; one-half the land in irrigation district. It has 300 acres in alfalfa; 40 acres of timber land, bearing probably \$5000 worth of wood; good family orchard, including orange, apple and orange trees; and 5-room house, 2 barns, sheds, shops, windmill house and tank house, all in good condition. Lateral No. 1. Modesto district, runs through the ranch. The ranch will carry 300 head of stock at the present time. Easy terms.

Also, small tracts of size to suit, at from \$20 to \$60 per acre, and on easy terms, in either Turlock or Modesto irrigation districts. Perpetual water right with the land.

ADDRESS, FOR PARTICULARS,

T. E. B. RICE & SON,  
Real Estate Dealers,  
MODESTO, CAL.



#### The Golden Harvest

will bring more gold to the farmer if he uses complete fertilizers containing not less than 6% actual

## Potash

The importance of Potash in grain culture is explained in our books which we mail free to all farmers who write for them.

GERMAN KALI WORKS,  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

## Moravian Barley.

Grown in the Livermore valley from seed brought to this country from Hungary by the U. S. Agricultural Department.

Hanna or Moravian Chevalier heads out two weeks earlier than the Chevalier usually grown in this State; resists drouth, hot weather and wind better than other varieties. In Germany and Austria it is known as the best brewing barley.

FOR SALE IN QUANTITIES TO SUIT BY  
August Hagemann,  
LIVERMORE, CAL.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,  
Surveying, Architecture, Drawing and Assaying  
113 PULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

Alfalfa Land \$2 per acre. cash.  
50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

CHEAP RATES California, Washington, Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)  
TRANS-CONTINENTAL FREIGHT CO.,  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

## ALFALFA

KING OF DAIRY FOODS. One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE

KEARNEY PARK, FRESNO, CALIFORNIA



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, September 2, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	81 1/4 @ 82 1/4	83 1/4 @ 84 1/4
Thursday	82 1/4 @ 83 1/4	84 1/4 @ 85 1/4
Friday	82 1/4 @ 83 1/4	84 1/4 @ 85 1/4
Saturday	82 1/4 @ 83 1/4	84 1/4 @ 85 1/4
Monday	81 1/4 @ 82 1/4	83 1/4 @ 84 1/4
Tuesday	81 1/4 @ 82 1/4	83 1/4 @ 84 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	50 1/2 @ 51 1/2	50 1/2 @ 51 1/2
Thursday	50 1/2 @ 51 1/2	50 1/2 @ 51 1/2
Friday	50 1/2 @ 51 1/2	50 1/2 @ 51 1/2
Saturday	50 1/2 @ 51 1/2	50 1/2 @ 51 1/2
Monday	50 1/2 @ 51 1/2	50 1/2 @ 51 1/2
Tuesday	50 1/2 @ 51 1/2	50 1/2 @ 51 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 49 1/4 @ 1 48 1/2	\$1 49 @ —
Friday	1 48 @ 1 48 1/2	1 49 @ —
Saturday	1 48 1/4 @ 1 47 3/4	— @ —
Monday	1 47 @ 1 47 1/4	— @ —
Tuesday	1 47 @ 1 47 1/4	1 48 1/4 @ —
Wednesday	1 48 1/4 @ 1 49	— @ —

### WHEAT.

The market is not showing much life in this center, there being a great difference in the views of buyers and sellers as regards values. Exporters are putting very little wheat aboard ship at present, and that mainly for stiffening purposes. Despite the fact that ocean freight rates by deep sea ships were never lower from this port, it is not possible just now to forward wheat cargoes outward with any profit. One ship went under charter the past week for barley and wheat, the latter grain to be taken as stiffening, and to be carried at 7s 6d, equivalent to \$1.80 per ton, while the rate on the barley is 16s. Another ship was reported offered for wheat, October loading, at 10s or \$2.42 1/2 per long ton, which is not quite 11c per cental. Ships cannot make expenses at these figures, and only those receiving government subsidies are being offered at the rates named, which are without precedent in the history of the port. The other extreme was experienced here in the early 80's, about twenty years ago, when as high as 90s was obtained on large wooden ships for wheat cargo to Liverpool direct, and over £5, or over \$25, per ton was paid for carrying wheat from here to Europe in iron vessels. One wooden ship which had been sold in England for debt, and was transferred from the American to the British flag, received as much freight money on one wheat cargo from this port as had been paid for her by the new owners. Times since then have changed. That there will be much wheat to spare for export from this season's California crop is altogether improbable.

California Milling	1 55 @ 1 60
Cal. No. 1 shipping, alongside	1 45 @ 1 47 1/2
Oregon Club	1 42 1/4 @ 1 45
Washington Blue Stem	— @ —
Washington Club	— @ —
Of qualities wheat	— @ —

### PRICES OF FUTURES.

December, 1903, delivery, \$1.47 @ 1.49 1/2.  
May, 1904, delivery, \$1.48 1/2 @ —.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.48 3/4 @ 1.49; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	65s @ 65 1/2 d	— s @ — s d
Freight rates	23 @ — s	12 1/4 @ 16s
Local market	\$1 12 1/2 @ 1 15	\$1 45 @ 1 47 1/2

### LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on Sept. 1 and August 1:

Tons.	Sept. 1.	Aug. 1.
Wheat	*33,955	16,458
Barley	158,911	28,223
Oats	4,772	2,836
Corn	132	73

\*Including 8833 tons at Port Costa, 23,849 tons at Stockton.

†Including 39,913 tons at Port Costa, 15,876 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst. show an increase of 17,497 tons for the month of August. A year ago there were 67,337 tons of wheat in near-by warehouses.

### FLOUR.

Market continues firm, although the movement at full current figures is not very brisk, either outward or on local account. There is not much flour being produced at present, however, on the

entire coast, most of the large mills being idle, and the stocks are showing steady reduction, with prospects of being lighter in the near future than they have been for many years. Market is now practically bare of superfines.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Fancy brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	5 00 @ 5 25
Washington, Bakers' extra	5 50 @ 6 15

### BARLEY.

There is no lack of demand for this cereal, particularly for the better grades, or for barley suitable for export. As is invariably the case on an active and firm market, buyers are much less exacting as to qualities than when offerings are excessive. Much barley is being taken for shipment this season which ordinarily would have to go for feed in the local market. While prices have been at materially higher levels in previous seasons, not only through speculative manipulation, but through actual demand from local consumers in years of very light crops, never has the inquiry for this cereal been more brisk, or have buyers scoured the interior of the State more extensively for stocks than the current season.

Feed, No. 1 to choice	\$1 11 1/4 @ 1 13 1/2
Feed, fair to good	1 08 1/4 @ 1 11 1/4
Brewing, No. 1 to choice	1 17 1/4 @ 1 22 1/4
Chevalier, No. 1 to choice	1 37 1/4 @ 1 47 1/4
Chevalier, common to fair	1 12 1/4 @ 1 32 1/4

### OATS.

Tendency has been to more firmness, mainly on account of the Government being again in the market. Uncle Sam awarded a contract for 1200 tons at \$1.41 1/2 per cental, the oats to be choice white or red and to be double sacked. It is said the party receiving the award is not particularly happy, as the prospects for the venture proving profitable are not encouraging. The Government is now soliciting bids on delivery of 3900 tons of same grade of oats, to be delivered either at San Francisco, Portland, Tacoma or Seattle.

White Oats, fancy feed	1 30 @ 1 32 1/2
White, good to choice	1 25 @ 1 30
White, poor to fair	1 20 @ 1 22 1/2
Gray, common to choice	— @ —
Milling	1 25 @ 1 30
Surprise, good to choice	— @ —
Black Russian feed	1 15 @ 1 25
Black for seed	1 35 @ 1 45
Red, fair to choice	1 15 @ 1 35

### CORN.

Spot stocks of California corn remain of small volume, but Eastern is arriving in moderate quantity. Most of the imported represents prior arrival purchases. While there are no radical changes in quotable values and none of great moment looked for in the near future, the market is a little more favorable to buyers than for some time past, as far as Large Yellow and White are concerned. Small Yellow continues difficult to obtain in anything like wholesale quantity.

Large White, good to choice	1 50 @ 1 57 1/2
Large Yellow	1 55 @ 1 60
Small Yellow	1 70 @ 1 80
Eastern, in bulk	1 40 @ 1 45

### RYE.

Holdings are not inclined to crowd stock to sale. Market is firm at current rates.

Good to choice, new	1 20 @ 1 25
---------------------	-------------

### BUCKWHEAT.

In the absence of offerings from first hands, there is nothing of consequence doing in this cereal. Quotable values remain nominally as last noted.

Good to choice	2 00 @ 2 50
----------------	-------------

### BEANS.

Not many beans are arriving, and receipts are likely to be light for several weeks to come. Outside of the Lima bean section, few beans of last crop are now held at producing points, and new have not yet begun to come forward in anything like wholesale fashion. It is not expected that new beans will put in an appearance in great quantity before next month. The market in the meantime is apt to be quiet, buyers refusing to take hold of old unless less actually compelled to, and then only for most immediate requirements. In order to effect a clean-up, some holders are granting concessions to buyers rather than miss sales. A few new Large Whites have been sold at \$2.50. The Eastern crop is reported unpromising.

Pea, fair to good, 100 lbs.	3 25 @ 3 40
Small White, good to choice	2 75 @ 3 00
Large White	2 40 @ 2 60
Pinks	2 90 @ 3 00
Bayos, good to choice	3 40 @ 3 50
Reds	2 75 @ 2 90
Red Kidney	— @ —
Limas, good to choice	3 25 @ 3 40
Black-eye Beans	2 65 @ 2 90
Garbanzos, large	2 00 @ 2 25
Garbanzos, small	1 25 @ 1 50

### DRIED PEAS.

Spot stocks are light and are mostly of the Green variety. Demand is not brisk, but for desirable qualities values are being

tolerably well maintained at the quoted range.

Green Peas, California	1 65 @ 1 75
Niles Peas	2 25 @ —

### HOPS.

Market is ruling against buyers, as the crop is turning out lighter than expected, both in this country and in Europe. Serious damage is reported to the Oregon crop from fungus and unfavorable weather. The crop in this State promises to aggregate considerably lighter than last year, but the quality is in the main good. Picking in this State is well under way and in some yards is already completed. Bids up to 23c have been reported for choice new. New York advices by mail are as follows: "There has been no abatement of the strong features noted a week ago. Local stocks are very small and the reserved offerings have made it impossible for either brewers or dealers to get what goods they wanted except at still higher prices. Business has been done at 23 1/4 @ 24c for choice quality, and there is a perceptible narrowing of values on all the lower grades. The yards in New York State are very irregular, but the vine has been doing pretty well of late and some well posted operators are disposed to raise the estimates of the crop somewhat above 50,000 bales. Anything at all good in the way of 1902 hops will bring 20c easily. Weather conditions in England are unfavorable; there is a strong attack of vermin and some mold; 400,000 cwt. is the maximum crop estimate. German crop is looking well, but Bohemia is likely to fail 100,000 cwt. behind last year."

California, good to choice, 1903 crop	22 @ 23
---------------------------------------	---------

### WOOL.

Buying is proceeding on a rather lively scale throughout the interior, and most of the fall clip in the southern and central parts of the State have already passed out of first hands. Market is showing fully as firm tone as at any previous date this year. There is every indication that all good to choice wools of 1903 production will be promptly taken by manufacturers, where they can be secured at prevailing values. The steamer Acapulco, sailing on Saturday last, took 266,779 lbs. wool for New York.

	SPRING.	FALL.
Humboldt and Mendocino	18 @ 20	10 @ 13
Northern, free	16 1/2 @ 17 1/2	8 @ 11
Northern, defective	14 @ 16	12 @ 16

Mountain free	10 @ 13
San Joaquin Plains	8 @ 11
Nevada	12 @ 16

### HAY.

While receipts are beginning to show decrease, they are still on a tolerably liberal scale and, as has been the case throughout the season, most of the hay represents purchases made in the interior. Market is quite firm for choice to select stable hay, but on medium and lower grades tends in favor of buyers, the selling pressure existing being confined to latter kinds.

Wheat, good to choice	10 50 @ 15 00
Wheat and Oat	10 00 @ 13 00
Oat, fair to choice	8 50 @ 12 50
Barley	8 00 @ 11 50
Clover	9 00 @ 10 00
Alfalfa	8 50 @ 11 50
Stock Hay	8 00 @ 9 00
Compressed	11 00 @ 15 00
Straw, 1/2 bale	45 @ 60

### MILLSTUFFS.

Bran and Middlings are not in heavy stock, but offerings exceed the immediate demand and market is weak at current quotations. Milled Corn is being held fairly steady at last quoted decline.

Bran, 1/2 ton	23 50 @ 24 50
Middlings	26 10 @ 27 50
Shorts, Oregon	22 50 @ 24 10
Barley, Rolled	24 00 @ 25 00
Cornmeal	33 00 @ 34 00
Cracked Corn	33 50 @ 34 50

### SEEDS.

Not much doing in this department. Most kinds are in too scant supply to admit of other than light jobbing trade. In quotable values there are no changes to record, these figures being for merchantable stock or other than seriously defective qualities.

	Per ct.
Alfalfa, Utah	— @ —
Alfalfa, Cal., good to choice	2 25 @ 2 50
Flax	2 75 @ 3 00
Mustard, Yellow	3 00 @ 3 25
Mustard, Trieste	3 00 @ 3 25
	Per lb.
Canary	5 @ 6
Rape	1 1/2 @ 2 1/4
Hemp	3 1/2 @ 4

### HONEY.

Most of the Comb on market is of small lots, and while being very steadily held, fails to move as readily or to as good advantage as would straight carload lots of uniform and high grade. Extracted is in high request, with offerings of only moderate volume and market firm at prevailing values.

Extracted, White Liquid	5 1/2 @ 6
Extracted, Light Amber	5 @ 5 1/2
Extracted, Amber	4 1/2 @ 5

Extracted, Dark Amber	4 @ 4 1/4
White Comb, 1-lb frames	13 @ 14
Amber Comb	9 @ 11
Dark Comb	— @ —

### BEE SWAX.

Only small quantities on market. More than is coming forward could be steadily and advantageously placed, especially of the higher grades.

Good to choice, light 1/2 lb.	27 1/2 @ 29
Dark	25 @ 26

### LIVE STOCK AND MEATS.

Business in Beef has not been brisk, but prices have remained about as last quoted, with market moderately firm for best qualities. Veal is in light receipt, as is invariably the case at this time of year, and demand is also limited, but choice is selling to very fair advantage. Market for Mutton and Lamb is fairly steady at last quoted decline, but inquiry is not very active. Lambs now offering are mostly too large to be specially sought after. Hog market is weak for small sizes, which are arriving too freely. Medium size and large Hogs are selling fairly well.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.	6 1/2 @ 7
Beef, 2nd quality	6 @ —
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 1/2 @ c; wethers	8 @ —
Hogs, hard grain, 150 to 250 lbs.	5 1/2 @ 6
Hogs, large hard, over 250 lbs.	5 1/2 @ 6
Hogs, small, fat	5 1/2 @ 5 1/4
Veal, small, 1/2 lb.	9 @ 10
Lamb, Spring, 1/2 lb.	9 @ 10

### HIDES, PELTS AND TALLOW.

Quotable values are without appreciable change, but there is a better tone to the Hide market, buyers taking hold more freely, owing to improved feeling East.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	— @ 10	— @ 9
Medium Steers, 48 to 56 lbs.	— @ 9	— @ 8
Light Steers, under 48 lbs.	8 @ —	7 @ —
Heavy Cow Hides, over 50 lbs.	8 @ —	7 @ —
Light Cow Hides, under 50 lbs.	8 @ —	7 @ —
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @ 9 1/2	— @ 8 1/2
Wet Salted Calf	— @ 10 1/2	— @ 9 1/2
Dry Hides	— @ 13	— @ 12
Dry Kip and Veal, 11 to 16 lbs.	— @ 13 1/2	— @ 12 1/2
Dry Calf, under 4 lbs.	— @ 19	— @ 17
Pelts, long wool, 1/2 skin	1 00 @ 1 50	— @ —
Pelts, medium, 1/2 skin	70 @ 90	— @ —
Pelts, short wool, 1/2 skin	40 @ 65	— @ —
Pelts, shearing, 1/2 skin	15 @ 30	— @ —
Horse Hides, salted, large prime, each	2 75	— @ —
Horse Hides, salted, medium	2 50	— @ —
Horse Hides, salted, small	2 00	— @ —
Horse Hides, dry, large	1 75	— @ —
Horse Hides dry, medium	1 50	— @ —
Horse Hides, dry, small	1 25	— @ —
Tallow, good quality	4 1/4 @ —	— @ —
Tallow, poorer grades	3 1/4 @ 4	— @ —

### BAGS AND BAGGING.

The Grain Bag market is inactive and is not apt to show any special life until the rainy season is fairly under way, there being nothing at present upon which to base conjectures of the probable needs of the coming year. The season's requirements for Fruit Sacks has been nearly satisfied, but values continue steady. Wool Bags are moving in limited quantity at quotably unchanged rates.

Fruit Sacks, cotton	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/4
Grain Bags, Calcutta, buyer June-July	— @ —
Grain Bags, San Quentin, in lots of 2,000, 1/2 lb.	5 55 @ —
Wool Sacks, 4-lb.	32 @ —
Wool Sacks, 3 1/2-lb.	30 @ —

### POULTRY.

The market as a whole has not shown much firmness since last review. Eastern poultry was in free receipt and arrivals of California poultry were of fair average proportions. Demand was rather light, owing to the warm weather prevailing most of the week. Large and fat young chickens sold to best advantage. Old fowls in poor flesh met with a slow market at low figures. Broilers sold fairly well.

Turkeys, young, 1/2 lb.	20 @ 22
Turkeys, old, 1/2 lb.	15 @ 16
Hens, California, 1/2 dozen	4 00 @ 5 50
Roosters, old	4 00 @ 5 00
Roosters, young (full-grown)	4 50 @ 6 00
Fryers	3 50 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 00 @ 3 00
Ducks, old, 1/2 dozen	3 00 @ 4 00
Ducks, young, 1/2 dozen	3 50 @ 4 50
Geese, 1/2 pair	1 25 @ 1 50
Goslings, 1/2 pair	1 50 @ 1 75
Pigeons, old, 1/2 dozen	1 50 @ —
Pigeons, young	1 50 @ 1 75

### BUTTER.

High grade fresh was not in large supply and for this description the market was tolerably firm. Many brands which earlier in the season ranked as first-class are now only second grade. Common qualities of fresh were not in favor, cold storage goods being taken instead. In the line of held stock there is considerable Eastern butter offering, mostly of com-



mon to medium qualities, and at comparatively low figures.

Creamery, extras, # lb.	28 @ 23
Creamery, firsts.	27 @ 23
Dairy, select.	26 @ 27
Dairy, firsts.	25 @ 26
Dairy, seconds.	23 @ 24
Firkin, good to choice.	23 @ 24
Mixed Store.	18 @ 19
Pickled Roll.	— @ —

#### CHEESE.

Stocks of flats, exclusive of a few favorite brands of fancy mild new, are in excess of the demand, and market for the general run of offerings inclines against sellers. Small sizes are commanding in a limited way comparatively good figures, and no heavy quantities of same are on market at this date. Eastern cheese is being held virtually as last quoted.

California, fancy flat, new.	13 @ —
California, good to choice.	12 @ 12 1/4
California, "Young Americas"	13 1/4 @ 14 1/4
Eastern.	13 1/4 @ 15 1/4

#### EGGS.

A few fancy fresh are commanding stiff prices. Sales were made at 34c. where the eggs were of the best quality and uniformly large and white. Demand for ordinary fresh was slow. Some averaging small and running irregular as to quality and color, would not command as much from the majority of buyers as first-class cold storage stock. Business was largely in Eastern and cold storage goods, with tendency of prices on same slightly upward.

California, select, large, white and fresh.	33 @ 34
California, select, irregular color & size.	25 @ 30
California, good to choice store.	20 @ 23
Eastern.	19 @ 24

#### VEGETABLES.

Most vegetables in season were in sufficient supply for the current demand, and the market in the main was devoid of noteworthy firmness, especially for ordinary qualities. Tomatoes offering were mostly under choice, and for such as were green or over-ripe the market was slow and weak. Onions were not in active request; only a small quantity was taken per last Australian steamer. Choice Green Corn continued in rather light receipt and sold to quite fair advantage.

Beans, Lima, # sack.	75 @ 1 25
Beans, String, # lb.	2 @ 3
Cabbage, choice garden, # 100 lbs.	75 @ 1 00
Corn, Green, # crate.	1 25 @ 2 00
Corn, Green, # sack.	75 @ 1 50
Cucumbers, # large box.	35 @ 60
Egg Plant, # box.	40 @ 65
Garlic, # lb.	2 @ 3
Onions, Yellow Danver, # ctn.	50 @ 85
Okra, Green, # small box.	30 @ 50
Peas, Sweet Garden, # lb.	3 @ 3 1/4
Peppers, Green Chile, # box.	25 @ 40
Peppers, Bell, # box.	30 @ 50
Summer Squash, # large box.	35 @ 50
Tomatoes, Bay, # large box.	40 @ 85

#### POTATOES.

Arrivals were not so excessive as preceding week, and there was a little better tone to the market, but there was no special scarcity of offerings, the demand not being very brisk, and for other than fully ripe of desirable and uniform size the market displayed no special firmness. Sweet potatoes were in good supply and market inclined in favor of buyers.

Sacramento River Burbanks.	50 @ 90
Salinas Burbanks, # cental.	1 25 @ 1 65
Early Rose.	70 @ 85
Sweets.	1 50 @ 2 00

#### The Fruit Market.

#### FRESH FRUITS.

Values for most kinds of fresh fruits now in season were without very radical change, but the general tendency was to more firmness, especially on most desirable qualities. Apples were in most liberal supply, but were mostly under choice, while the most positive and urgent demand was principally for best stock. Fancy 4-tier Gravenstein commanded the most attention and sold at better average figures than preceding week. Bartlett Pears were in reduced supply, the season for this fruit being well advanced. Especially were choice to select Bartletts in light receipt and such met with prompt custom at good prices. Peaches were not in large stock and desirable canning qualities, both free and clingstone, were in good wholesale demand, going in bulk mainly within range of \$20@\$25 per ton, a few of superior quality ruling a little higher. Plums of desirable varieties and in prime to choice condition were readily taken by canners at a quotable range of \$20@\$25 per ton; there was also a very good demand for offerings in free boxes, both for shipment and local use. Table Grapes were in fair supply, and market was rather easy in tone, especially for other than most select stock particularly desirable for shipment, but the quotable range of values did not show great change. Wine Grapes went at about the same figures as last quoted, with demand only moderate. Berries of all kinds arrived sparingly, but the demand was not brisk, although choice qualities brought as a rule very fair prices. Watermelons met

with a rather firm market, demand being good most of the week, but Cantaloupes and Nutmeg Melons went at generally low figures, being in quite heavy supply.

Apples, fancy, # 4-tier box.	1 00 @ —
Apples, good to choice, # 50-box.	65 @ 90
Apples, common to fair, # 50-box.	30 @ 60
Blackberries, # chest.	2 50 @ 4 00
Cantaloupes, # crate.	50 @ 1 00
Crabapples, # small box.	30 @ 60
Figs, Black, # box.	60 @ 1 00
Figs, White, # box.	35 @ 60
Grapes, # crate.	60 @ 90
Grapes, # small box.	35 @ 60
Grapes, # large open box.	50 @ 1 00
Grapes, Zinfandel, # ton.	21 00 @ 26 00
Nutmeg Melons, # box.	30 @ 60
Peaches, # box.	40 @ 75
Peaches, good to choice, # ton.	30 00 @ 35 00
Peaches, good to choice, freestone, # ton.	20 00 @ 25 00
Pears, Bartlett, # box.	75 @ 1 25
Pears, other varieties, # box.	40 @ 75
Pears, No. 1 Bartlett, # ton.	30 00 @ 35 00
Pears, No. 2 Bartlett, # ton.	10 00 @ 15 00
Plums, good to choice, # box.	30 @ 65
Plums, Large Green, # ton.	20 00 @ 25 00
Raspberries, # chest.	7 00 @ 9 00
Strawberries, Melinda, # chest.	3 00 @ 5 00
Watermelons, # 100.	7 00 @ 20 00
Whortleberries, # lb.	6 @ 8

#### DRIED FRUITS.

There is a generally firm tone to the market for cured and evaporated fruits, although in quotable values there have been no radical changes since date of last report. The movement in Apricots is less active than during greater part of August, but this is as much or more due to limited offerings at present from growers than to lack of demand. Most of the Apricot crop has passed out of first hands and at good average figures. While the market for this fruit is likely to remain firm throughout the season, materially stiffer prices are not looked for, and indications are that growers who have sold at full current values have made no mistake. The firm tone lately developed on Peaches continues to be maintained. Large quantities of this year's crop have been already secured by wholesale distributors, and there is every prospect that remaining supplies in first hands will bring equally as good figures as have been realized by those who have already unloaded. Pears are not offering in great quantity, and market is decidedly firm, particularly for high grade stock, which promises to be in lighter supply this season than for many years. Values are not very clearly defined for choice to fancy, in the absence of noteworthy stocks; sales could likely be effected above figures warranted as regular quotations. Plums are not coming forward in great quantity, and it looks as though the output of the dried product will be quite light, as compared with recent years. A much firmer market is being experienced than last season, particularly for red and yellow, which are given the decided preference over black. In Prunes not much new business is reported, most growers refusing to sell at current quotations. Market is showing more firmness for small Prunes than for large sizes, as compared with last season's prices.

#### EVAPORATED OR BLEACHED.

Apples, # 50 boxes, rings, pressed, good to choice.	4 1/2 @ 5 1/4
Apples, extra choice to fancy, # 50 box.	5 1/2 @ 6
Apricots, Moorpark.	8 @ 11
Apricots, Royal, good to choice, # lb.	7 @ 8
Apricots, Royal, fancy.	8 1/4 @ 9
Figs, 10-lb. box, 1-lb. cartons.	60 @ 75
Nectarines, # lb.	4 @ 5
Peaches, unpeeled, fair to good.	4 @ 5
Peaches, unpeeled, choice.	5 1/4 @ 6
Peaches, unpeeled, fancy.	6 @ 8 1/4
Peaches, unpeeled, extra fancy.	7 1/4 @ 8 1/4
Pears, halves, fancy.	7 1/2 @ 8 1/4
Pears, halves, choice.	6 @ 7
Pears, halves, fair to good.	5 @ 6
Plums, Black, pitted.	4 1/4 @ 5
Plums, Red and Yellow.	5 1/4 @ 6
Prunes, Silver, good to fancy.	4 @ 6 1/4
Prunes, in bags, 4 sizes, # 3; 10-50s, # 4; 100-50s, # 4 1/4; 60-70s, # 3 1/4; 70-80s, # 3 3/4; 80-90s, # 2 1/2; 90-100s, # 2 1/4; small, # — @ —.	

#### COMMON SUN-DRIED.

Apples, sliced.	3 1/4 @ 3 1/2
Apples, quartered.	3 1/2 @ 3 3/4
Figs, White, in bulk.	— @ —
Figs, Black, in sacks, # lb.	2 1/2 @ 3 1/4
Plums, unpitted, # lb.	1 1/2 @ 2

#### RAISINS.

Not much doing in this line, and not much stock left to operate upon. New are expected to put in an appearance in about a fortnight. Quotations for last season's product are now largely nominal and remain as last noted. Some recent transfers of small holdings have been made at a lower range of values than officially quoted. The Growers' Association will continue, and has announced opening prices for new Muscatels at 6 1/4c, 6 1/2c and 7c for 2, 3 and 4 crown, respectively.

Prices at common shipping points, crop of 1902: 2-crown London Layers, 20-lb. boxes, \$1.05 # box; 3-crown do, \$1.15; 4-crown fancy Clusters, do, \$2; 5-crown Deheas, do, \$2.50; 6-crown Imperials, do, \$3. Loose Muscatels, # lb., 4-crown, 5 1/2c; 3-crown, 5 1/4c; 2-crown, 5 1/4c.

#### CITRUS FRUITS.

Valencia Oranges are offering in moderate quantity at same range of prices recently current, but are moving very slowly, the demand for this fruit being invariably light at this season of the year. There was increased inquiry for Lemons, and while market presented a better tone, supplies proved ample for the requirements and values were without quotable

advance. Good to choice Limes were higher, the bulk of recent arrivals being in rather poor condition.

Oranges, Valencias, # box.	1 50 @ 3 00
Lemons, California, select, # box.	2 50 @ —
Lemons, California, good to choice.	1 75 @ 2 25
Lemons, California, fair to good.	1 75 @ 1 75
Grape Fruit, # box.	1 00 @ 2 00
Limes, Mexican, # box.	5 00 @ —

#### NUTS.

The market for Almonds is showing steadiness, with fair movement outward. There are no large holdings now in the hands of growers. Recent transfers have been at 10 1/4 @ 11c for Non Pareil, 10 @ 10 1/4c for I. X L, 9 1/4 @ 9 1/2c for Ne Plus Ultra and 8 1/2 @ 9c for Drake's Seedling. Prices for new crop Walnuts are expected to be soon established. For fancy soft shell as high as 12c. is talked of, but the views of buyers are materially lower, owing to the good foreign crop this season.

California Almonds, shelled.	15 @ 18
California Almonds, paper shell.	9 1/4 @ 11
California Almonds, soft shell.	7 @ 8
California Almonds, hard shell.	5 @ 5 1/2
Peanuts, fair to prime.	4 1/2 @ 5 1/2
Peanuts, Eastern, hand-picked.	5 1/4 @ 6 1/2

#### WINE.

The wholesale market for wine remains exceedingly quiet. While quotable values remain as for some weeks past, 15 @ 18c per gallon for dry wines of last year's vintage, the figures are at present largely nominal, in the absence of any trading of consequence. Most buyers are out of the market for the time being. Prices for wine grapes of current season have not yet been established for round lots. Indications at this date are that the market will be materially lower than last season. A few Zinfandel grapes are selling to the Italian trade, San Francisco delivery, within range of \$23 @ 26 per ton, as to quality. Receipts of wine at San Francisco last week were 191,275 gallons, and for month of August aggregated 1,087,850 gallons. Shipments for the week include 102,968 gallons per steamer Acapulco, mostly for New York, and 1,000 barrels for New York per steamer Texan.

#### Sharple's Latest Catalogue.

Anyone and everyone interested in the hand cream separator question will find interesting reading in the Sharple's catalogue just issued. The positive fearless style of the Sharple's advertisements characterizes the catalogue and appeals all the more strongly because there is more room to set the argument down. The Sharple's factory is the oldest in the country and is rich with first experiments with all the phases of separator making. The arguments and conclusions set down in the book make a strong case. It affords interesting and instructive reading for any about to buy a separator. The advertisement elsewhere gives correct address in writing for the treatise, which will be sent free of charge upon request.



**3-HORSE POWER**  
**Webster Gasoline Engine.**  
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.  
SEND FOR CATALOGUE.  
**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

#### Cured Spavin, Ring Bone, Sweeney, Galls and Sores.

Mifflin, Tenn., March 2, 1903.  
Dr. B. J. Kendall Co., Enosburg Falls, Vt.  
Gentlemen:—Please send me your book, "A Treatise on the Horse and His Diseases." I have used your Kendall's Spavin Cure on Spavin and it killed it, on Ring Bone and it killed it; also tried it for Sweeney, Galls and Sores and it cured them.  
Yours truly,  
J. A. LATHAM.

## MALTHOID ROOFING

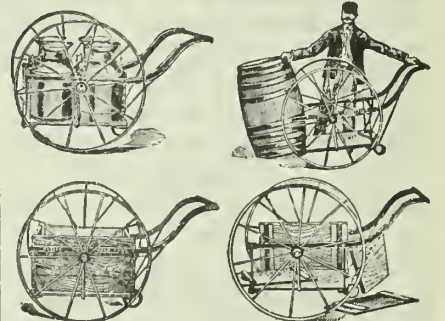


Never corrodes, never sweats nor expands; in fact never gives any trouble of any kind and is used for all classes of work. A very superior covering for barns, factories, depots, canneries, tanneries, sheds and mining property.

Send for booklet.

#### The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



#### No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15. Handles barrels or four large milk cans. Steel frame and steel wheels.

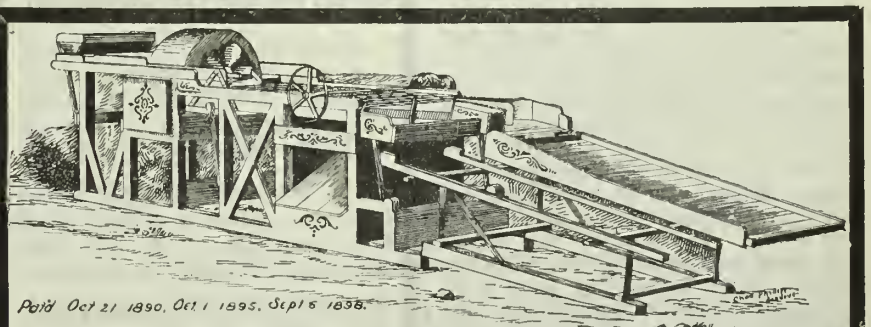
#### HOOKE & CO.

16 & 18 DRUMM ST., SAN FRANCISCO, CAL.

#### TO PRACTICAL FRUIT MEN.

#### A SPLENDID OPPORTUNITY!

100 acres of fruit and 450 acres of grazing land in Butte county. Will lease at nominal rental. Employ right man. Address "Owner," this office.



Pat'd Oct 21 1890, Oct 1 1895, Sept 5 1898.

## The Most Complete Line of Fruit Handling Machinery on the Pacific Coast.

As far as we know we have the largest and best equipped plant for making fruit handling machinery of all kinds and sizes.

We have issued a catalogue describing and illustrating over 86 different lines.

Our specialty is the building, planning and equipping of complete drying plants and warehouses.

If interested in any kind of machinery used in connection with any kind of fruit, write us. If we do not have them regularly, we invent and build to order.

## ANDERSON-BARNGROVER MFG. CO.,

128 WEST SANTA CLARA STREET,

SAN JOSE, CAL.



**SHARPLES TUBULAR DAIRY Separator**



Entirely different from any other separator; more simple, durable, convenient, safe and efficient. That is why the demand for

**THE TUBULAR**

is so great and why Sharples Separator Works is the largest in the world. Examine the Tubular and you will buy no other. Write for free catalog No. 131

**THE SHARPLES CO., P. M. SHARPLES,**  
Chicago, Ill. West Chester, Pa.

## Patrons of Husbandry.

### Importance of Farmers' Organizations.

From an essay by PROF. C. B. SUMNER of Claremont at the Seaside Farmers' Institute at Long Beach.

If I have made clear these few among the many reasons why we should organize, viz., for the sake of economy of production, economy of handling, economy of transportation, and economy of marketing, for the securing of proper legislation, State and national, for the promotion of the intellectual and social life, we are all doubtless ready to organize, if not already organized. But some one asks how shall we organize? Here, too, happily, we are not left simply to theory. We have experience to draw from. The great word of to-day is co-operation. We have tried it, proved it—we are brethren, we have common interests, we must work together. These institutes are doing much for us. We are thankful for them. They do not meet often enough, however, nor are they closely enough organized to meet all our requirements. Our fruit associations have been invaluable to us. They have furthered our interests much further than most of us realize. I do not hesitate to say that they have been our salvation. Here is a form of organization that has larger possibilities. It is an object lesson we do well to study. Would that all fruit growers were thus co-operating to their own interests. It would speedily mean better fruit, fruit better handled, better transported, better marketed, and more profitable. Nor need these organizations be confined to one production. There are other productions than orchard fruits, whose interests may be thus subserved. But these organizations, while they are indispensable, only partially effect the objects sought by organization. They may, and in some cases have, reached out beyond material things. Some of our associations have their annual meetings attended with careful and informing papers and addresses, a lunch, time for introductions and conversation, good music, etc. This is well. The more we can mingle the social amenities with business the better. There is another form of organization, however, of much wider application, more inclusive, and in some respects, better suited to all the objects sought. I mean Farmers' Clubs.

Here is for us a source of strength and culture as yet only partially realized. We are already greatly indebted to them as a power in State and national affairs. They are a body recognized as an evidence where farmers' interests are concerned. Political shysters may threaten, but they are careful how they try to turn down representatives of these clubs. They do not like to monkey with buzz saws. One of our Governors has yielded to perversity or else to moneyed influences and tried it. Neither he nor his successors are likely to try it again. The political bosses attempted again to bluff an inexperienced representative of our clubs from southern California, but they discovered their mistake. Our representatives in Congress are inclined to heed our united voice. But we are yet feeble in comparison with what we are speedily to become. We

have thus learned not merely that we are a potent influence outside, but vastly more important that we are developing, educating, cultivating, our own membership. We find a rare, an unwonted, I may say utterly unprecedented body of farmers from which to draw our membership. Our meetings are of a superior character. There is no lack of those who prepare themselves to do real scientific work and report scientifically to their clubs.

The discussions of such reports are often thorough and exhaustive, so that the whole membership is lifted to a higher level of intelligence on the themes discussed, and by frequent meetings the themes pretty well cover the practical matters as they come up. Thus every member knows the latest dangers, the safeguards, and the surest deliverance, the methods successful and those unsuccessful. Not only so, there is a refining, cultivating influence, by reason of the reading and the study in preparation and the intellectual effort in the meetings, of the music, and the diversions and the other social amenities that develop manhood and womanhood. Those accustomed to Eastern clubs of like nature mark the contrast and give expression to their surprise in unmeasured terms. No farmer, and no farmer's family can afford not to belong to a farmers' club. No extensive rancher will stay away from these meetings, if for naught else than from pure business considerations. How much less can the smaller rancher, whose success is utterly dependent on the most minute details in all his work, disregard these opportunities for gaining practical knowledge. How much more, too, does the smaller rancher, who as a rule has less of time and less of literature at command, need the intellectual and social stimulus of these meetings.

Then, too, the truly great man or woman is the one who does something for others. Manhood and womanhood equally grow by giving. Man lives not for himself alone. We cannot afford to ignore our obligations to others. If we get nothing for ourselves the fact that we may help others should compel us to do what we can for farmers' clubs. We are greatly indebted to the press for weekly, and even in many cases daily, discussions of the practical issues that come before the farmers. Some of our brightest, most enterprising, and most

successful men are giving us the benefit of their experiences through the newspapers; but no amount of reading can take the place of the eye, the voice, the whole personality, and especially the mutual discussion which follows every paper read.

You ask when is the best time to organize. I reply now. The quicker the better. There is always time for so important a matter even in the busiest season. The most of us here know nothing of very hot oppressive weather. Our evenings are delightful all the year round. Our roads for the most part are good. Organize now. If not in the day time, in the evening. Meet whenever it is most convenient to the greatest number. Meet in the different homes. Let your meetings bring light and joy and helpfulness into many homes, as they surely will into all hearts.

## One Experience

with a lame horse is enough. You lost money on that one. You will never need to do so again if you will use

### Kendall's Spavin Cure

the old reliable remedy for Spavins, Ringbones, Splints, Curbs, etc., and all forms of Lameness. Cures without a blemish as it does not blister. Price \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for KENDALL'S SPAVIN CURE, also "A Treatise on the Horse," the book free, or address

DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

**75%**



That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. THIS MACHINE AND ALL

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts. HOOKER & CO. 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.



**WIRE** FENCE GOODS DIPPING BASKETS

West Coast Wire & Iron Works, 19 Fremont Street, San Francisco, Cal.

**HENRY B. LISTER, ATTORNEY AT LAW.**

Notary Public and Commissioner of Deeds for New York. Room 14, fourth floor, Mills Building, San Francisco. Telephone Bush 248.

## Popping of lamp-chimneys is music to grocers. MACBETH.

If you use a wrong chimney, you lose a good deal of both light and comfort, and waste a dollar or two a year a lamp on chimneys.

Do you want the Index? Write me.

MACBETH, Pittsburgh.

**JOHN A. YEATMAN & CO.**

13 FIRST STREET SAN FRANCISCO, CAL.

**IRRIGATORS ATTENTION!**


WE MANUFACTURE

**ECLIPSE Centrifugal Pumps**

AND CAN FURNISH PUMPING PLANTS IN ANY SIZE, INCLUDING POWER.

Send for Folder.

**PNEUMATIC FRUIT GRADER**



**Saves Money.** Sizes Everything from Plums to Oranges

Packers and shippers of deciduous fruits will find this a perfect sizer which handles the fruit gently between two soft pneumatic cushions. No bruising. Has been used on ripe Georgia peaches for two seasons with entire success. Write for complete description and price. Wright Brothers, Riverside, Cal.

**CITRUS TREES**

That will grow, bear profitable crops, and are true to name. Are the only kind that we propagate. Thirteen years in the citrus nursery business—hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture free; send for a copy.

**SAN DIMAS CITRUS NURSERIES**

SAN DIMAS, CAL. R. M. TEAGUE

**HEALD'S BUSINESS COLLEGE,**

24 Post Street, San Francisco, Cal.

The Leading Commercial School West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

## Removal Notice

—OF—

The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

OUR SPECIALTY IS

**CUTTER'S BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.



**Page Hog Fence**

holds the whole litter. It's closer woven. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

Telephone Main 199. Blake, Moffitt & Towne. DEALERS IN PAPER, Nos. 55-57-59-61 First St., San Francisco, Cal. BLAKE, MOFFITT & TOWNE, Los Angeles. BLAKE, McFALL & CO., Portland, Or



1,200,000

## U. S. CREAM SEPARATORS

This seems a great number of separators. Does it not? It is a great number, but these figures are as easy to make as smaller ones—and, as our "would-be competitors" make their figures

400,000

and we sell three separators to their one, the reader can see our figures are within the FACTS—

POUGHKEEPSIE, N. Y., March 1, 1902.

Fifteen years ago last October we started our creamery on the co-operative plan recommended by your agent, fitting the building with machinery from your Company, and using the Cooley Creamers for the patrons. We have run on this same plan for all these years until Sept. 1899, when we put in separators. Our patrons are using more than three to one of the U. S. Separators over all other makes, and we believe the U. S. Separator to be the best on the market.

We are still working the cream gathering plan, and believe it to be the best for the rural districts, where unavoidably some of the patrons are a long distance from the creamery. We are satisfied with it, because we believe it to be the best and the cheapest. No farmer can afford to hitch up and carry his own milk, even if he live within half a mile of the creamery, if he can get it done, as we have this year, at the average cost to each patron per day of 9 cents, and some years for less.

H. R. HOYT, President La Grange Creamery.

Bear in mind that the main factory of the De Laval Co. is at Poughkeepsie, and that that company boasted that no other separator could be sold in their county.

Send for illustrated circulars.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., Bellows Falls, Vt.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
FANCHER CREEK NURSERIES Inc.

GEO. C. ROEDING, PRESIDENT AND MANAGER  
P.O. BOX 18 FRESNO, CAL.

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**  
Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.

**PATENTS**  
Obtained in all civilized countries. Expense saved inventors by preliminary searches. Communications confidential. Inventors' guide free on request. DEWEY, STRONG & CO. (Established 1860), 330 Market Street, San Francisco, Cal., and 918 F Street, Washington, D. C.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING

or find it necessary to REPLACE A WORN-OUT ROOF

## ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,

713 Market Street, San Francisco.

**BELLE CITY Thresher**

A small and compact thresher of great capacity. Strongly built. Can be run by light power. Requires but a few men to operate it. Guaranteed.

Full Line of Sweep and Tread Powers.

A Time and Money Saver.

**Feed and Ensilage Cutter.**

Ensilage cutters have self-feeder and blower attachments. Write for book about ensilage, illustrated catalogue and pricelist—free.

**BELLE CITY MFC. CO.,**  
Box 114, Racine, Wis.



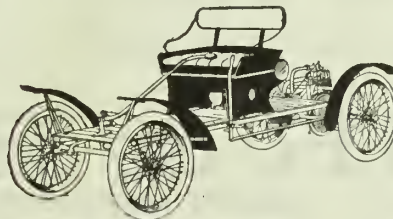
### Eames Tricycle Co.,

Patentees and Manufacturers of improved designs of Tricycles, Tricycle Chairs for Invalids, and various models of rolling Chairs.

Chairs sold, rented and exchanged.

Illustrated Catalogue mailed on application.

**EAMES TRICYCLE CO.,**  
2020 Market St. San Francisco.  
534 S. Broadway, Los Angeles.



### AN AUTOMOBILE

IS WHAT YOU WANT.

Practical, Economical, Up-to-Date and Stylish.

WE HAVE THEM NEW AT \$450 (See Cut).

SOME GREAT BARGAINS \$350 UP.

**MOTOR VEHICLE CO.,**

A. C. Wheelock, Mgr. 1814 Market St., San Francisco.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



# Benicia-Hancock Disc Plows

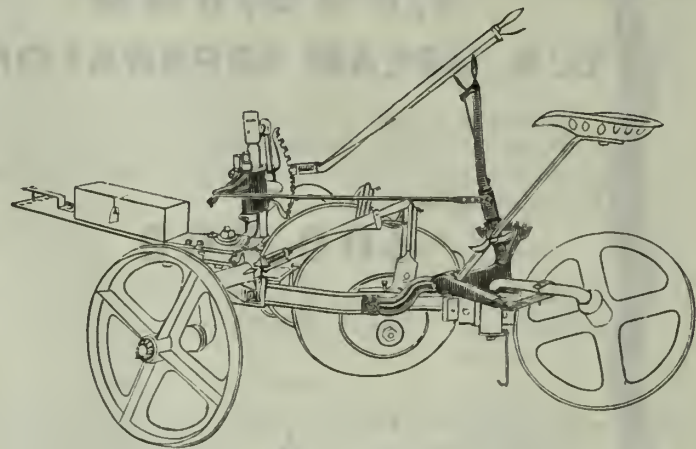
## 1, 2, 3, 4, 5 or 6-DISC.

In addition to our regular field Disc Plows, we manufacture the same plow for **ORCHARD USE**.

Will do better work with one-third to one-half less draft than any other disc or mouldboard plow made.

It is constructed to run close to the ground.

It bends the weeds and stalks as it passes over them and forces them into the furrow, and they are fully covered up and enrich the ground. In this respect, to say nothing of the draft and other advantages, it is a hundred per cent ahead of the IMITATION HIGH TRESTLE DISCS that others are trying to make, and we are ready to prove our assertion. We guarantee it to plow hard, dry ground where all others fail.



## The Reversible Disc Plow

### FOR WORK ON HILLSIDES. FOR DEEP PLOWING.

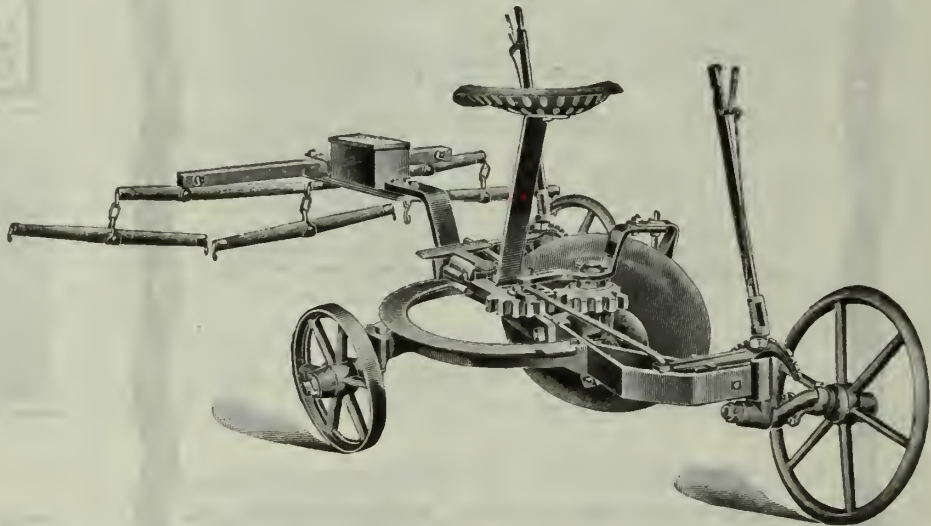
Will replace any single sulky plow and do better work. No dead furrows left.

The public has been looking for such a plow for years.

If our agents cannot tell you about it, write us.

Don't be misled into buying any Disc Plow until you try the **BENICIA-HANCOCK** in your own field—**AT OUR RISK**. Other plows may still be improving, but the **BENICIA**, with its patented features, is away in the lead **AND WILL STAY THERE**.

Write for circulars and our liberal offer to all bona fide intending purchasers of a Disc Plow.



# BAKER & HAMILTON

SACRAMENTO. SAN FRANCISCO, LOS ANGELES, CAL.

### SHEEP AND WOOL.

Yuba and Sutter Wool Growers.

A meeting of the wool growers of Yuba and Sutter counties was held in Marysville last week and is reported in the Appeal. E. Davis called the meeting to order, and W. F. Hoke was elected chairman and J. A. Scott secretary.

The meeting was called to discuss matters of interest, including the storage of wool, marketing the product, etc.

C. Bull opened the discussion on the best way to market their product, and stated that last year the wool had been stored in the J. R. Garrett Co. and W. T. Ellis Co.'s warehouses and good prices realized. The cost of storage and insurance had been satisfactory to the producer.

It was the opinion of the growers present that they should do away with the middleman and if necessary act as their own middleman. It was stated that the result of last spring's sale was very satisfactory to the wool growers, as good prices had been realized.

On motion of C. Bull, seconded by T. A. Gianella, the chairman was empowered to appoint an executive committee of five, who will be given full power to act in arranging for warehouses and for the sale of the wool, and who are to ascertain the number of growers who intended to store their wool; the chairman himself to be a member of the executive committee.

Chairman Hoke named C. Bull, T. A. Gianella, E. Davis, W. F. Hoke and P. Blackford.

On motion of C. Bull, seconded by J. Saunders, the executive committee was empowered to select a secretary; also to provide for raising funds for necessary expenses.

On motion of N. F. Mahle, seconded by H. Chism, the meeting adjourned for a week, at which time the executive committee will be ready to make a report.

The executive committee met later

and decided to have the wool of the growers stored at the J. R. Garrett Co.'s warehouse. No date for the sale was decided on. C. Bull was elected secretary.

### AGRICULTURAL SCIENCE

University Short Course in Agriculture and Horticulture.

Last year the first short course in agriculture and horticulture was given at the State University, Berkeley. It was successful in that it gathered together a group of about twenty very earnest and studious young men and women who worked hard under their instructors for ten weeks, and declared that the course had been very satisfactory and helpful. There will be another chance this year, which we hope all our readers will think of for themselves and talk about with their friends. The special course for farmers will run during the same time that the short course in dairying is in progress, from October 6 to December 17. Any person over seventeen years of age and possessed of a common grammar school education will be eligible for admission into the short course without examination.

The curriculum offered this year is wider in scope than ever before, and more men in the faculty of the college of agriculture will be engaged in the instructional work. The work of Prof. Myer E. Jaffa will be on his particular specialty, foods and feeding and nutrition topics. A lecture course on "Feeding of Farm Animals" and a special course on "Human Foods" and a lecture on "Dairy Chemistry." Another notable topic will be that of insects and insecticides. Prof. C. W. Woodworth will deliver the general lectures on "Economic Entomology," and will be assisted by Assistant Entomologist Quayle in the discussion of "Scale Insects." Prof. George E. Colby, the agricultural chemist, will treat of "Insecticides." Another new

course will be that of "Farmer's Business Methods," by C. A. Colmore.

The rest of the work will deal with the physics and chemistry of soils, fertilizers, grasses and forage plants, the sugar beet industry, California horticulture, plant propagation, viticulture, milk and its products, practical dairy work, dairy bacteriology, dairy chemistry, breeds and breeding and veterinary science. In giving this elaborate line of instruction, practically every man in the agricultural department will assist. Besides Prof. Hilgard, head of the department, there will be Profs. Loughbridge, Wickson, Shaw, Stubenrauch, Twilight and Ward.

### FRUIT MARKETING.

Peaches and Figs in Fresno.

Fruit is looking upward, particularly peaches and figs, says the Fresno Republican. A short while ago peaches were extremely inactive. There was every indication of a big crop, and the dried fruit men apparently did not want them. Others were very chary at first, every buyer seeming to be trying to find out what the other fellow was going to do. Peaches were sold for as low as 3 and 3½ cents.

Within the last few days all this has changed. The fruit men suddenly decided that they wanted peaches, wanted them badly and wanted them in a hurry. There are whispers of a combine having been formed to buy up the peach crop. Buyers in automobiles and in teams started out in all directions, making offers on peaches. The price immediately went up to 4½ and 5 cents, the latter figure being offered for choice. The buyers not in on the game immediately sniffed the proverbial rodent; but it was then too late to do much, especially at the old figure. It was a coup on a much larger scale, but similar in detail, to the celebrated corner the High Five got on figs a year ago. The price offered, 4½ and 5 cents, is, by the way, a good price for peaches, especially in the

face of a large crop. The farmers are at a loss to ascertain why the buyers went after peaches so suddenly and with such great avidity. Advices as to some Eastern condition probably explain the local interest.

There is also a big demand for figs and prices go from 3½ to 4 cents. This activity has sprung up within the last few days, and is said to be due to local competition among the packers. The fig industry has of late years grown to large proportions, and where a few years ago only two firms dealt in figs, now seven prominent packers handle them, making a good thing out of the crop. The crops this year is estimated at 2500 tons. The industry is peculiar in the fact that the figs pass through the hands of speculators before they reach the packers. These so-called speculators are almost exclusively Slavonians. They buy the figs on the trees from the owners, pick them and cure them. These people know how to cure figs, the knack being almost exclusively their own. They sell them to the packers. The latter are buying almost everything in sight at good prices, and whatever the growers may have obtained, the Slavonian middlemen will fare handsomely. The principal houses engaged in the fig business are: J. B. Inderrieden Co., Seropian Bros., Markarian Bros., Pete Droge, George Roeding, T. J. Hammond and A. L. Hobbs.

The figs are the California White Adriatic, and, as processed and put up in cartons, they sell very well. But they must be got on the market before the foreign figs and the Calimyrna, which, of course, are a superior fruit.

CANISTEO, N. Y., Oct. 31, 1902.

DR. S. A. TUTTLE,  
Dear Sir:—The box of Elixir shipped me to Olean last summer, together with Worm Medicine and Powders, reached me O. K. We used the Elixir as a body wash on all our horses. We raced John Durrett nearly every week from July 1st until October 1st. In that time he took no cold or a sore step. We also cured a case of colic in five minutes. The family Elixir did not get a chance to try, as it was stolen. Will send an order soon for another dozen, also some Condition Powders. I believe your medicine the best all around thing on the market.  
Yours truly,  
Dwight Cook,  
Trainer for J. S. & P. L. Coonley.



An Old Acrostic.

Since brevity is the soul of wit and tediousness the limb and outward flourishes, I will be brief.—SHAKESPEARE.  
Use the means and God will give the blessing. It's good to dread the worst, the best will be the welcome.—PROVERB.  
Burns o'er the plow sang sweet his wood-notes wild; and richest Shakespear was a poor man's child.—ELLIOTT.  
Sin hath broken the world's sweet peace—unstrung the harmonious chords to which the angels sung.—DANA.  
Children of wealth or want, to each is given one spot of green and all the blue of heaven.—O. W. HOLMES.  
Religion is slave to no sect, takes no private road, but looks through nature up to nature's God.—POPE.  
It is the care of a very great part of mankind to conceal their indigence from the rest.—JOHNSON.  
Beauty is but a vain and doubtful good, a flower that dies when first it 'gins to bud.—SHAKESPEARE.  
Every man, however humble his station or public his powers, exercises some influence on those who are about him, for good or for evil.—SEDGWICK.

Fine thoughts are wealth, for the right use of which men are, or ought to be, accountable.—BAILEY  
Oh wretched is the dame to whom the sound "Your lord will soon return" no pleasure brings.—MATURIN.  
Reflect upon a clear, unblotted, acquitted conscience, and feed upon the ineffable comforts of the memorial of a conquered temptation.—SOUTH.  
The idle, who are neither wise for this world nor the next, are emphatically fools at large.—TILLOTSON.  
He who receives a good turn should never forget it; he who does one should never remember it.—CHARRON.  
Everywhere throughout all generations and ages of the Christian world, no church ever perceived the word of God to be against it.—HOOKER.

Perseverance wins each God-like act and plucks success e'en from the spear-proof crest of rugged danger.—HAYARD  
All deception is nothing else but a lie reduced to practice, and the falsehood passing from words to things.—SOUTH  
Charity is a tribute imposed by Heaven upon us, and he is not a good subject who refuses to pay it.—FEEDHAM.  
If we will stand haggling at imaginary evils, let us never blame a horse for starting at a shadow.—L'ESTRANGE.  
Frugality may be termed the daughter of prudence, the sister of temperance and the parent of liberty.—JOHNSON.  
It is hard to jest and not sometimes jeer too, which oftentimes sinks deeper than was intended or expected.—FULLER.  
Common sense is a phrase employed to donate that degree of intelligence, sagacity and prudence which is common to all men.—FLEMING.

Reason cannot show itself more reasonable than to leave reasoning on things above reason.—SIDNEY.  
Under the divine influence the weaker sex becomes capable of the most difficult enterprises.—BURKE.  
Repentance so altereth and changeth a man, be he ever so defiled, that it maketh him pure and clean.—WHITGIFT.  
A good man's prayers will from the deepest dungeon climb to Heaven's height, and bring a blessing down.—BAILEY.  
Life's evening, we may rest assured, will take its character from the day which has preceded it.—SHUTTLEWORTH.

Power, when employed to relieve the oppressed and punish the oppressor, becomes a great blessing.—SWIFT.  
Resignation casts a grave but tranquil light over the prospects of even a toilsome and troubled life.—HUMBOLDT.  
Employment is so essential to human happiness that indolence is justly considered the mother of misery.—BURTON.  
Scaliger, in comparing the two orators, says that nothing can be taken from Demosthenes nor added to Tully.—DENHAM  
Study to fill your mind. Gold and silver were originally mingled with dirt until avarice and ambition parted them.—SENECA.

New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING AUGUST 18, 1903.

- 736,345.—RAILWAY SIGNAL—Ammann & Campbell, Spokane, Wash.  
736,387.—OIL BURNER—Brunner & Patterson, Hayward, Cal.  
736,688.—WATER TRAP—F. B. Charroin, Fairhaven, Wash.  
736,695.—FLOW JOINTER—W. R. Crimfield, Walla Walla, Wash.  
736,827.—FLY TRAP—E. F. Davison, Marysville, Wash.  
736,513.—PIPE LINE VALVE—C. E. Fowler, Seattle, Wash.  
736,847.—STRAP FOR ECCENTRICS—W. Harling, Bialne, Wash.  
736,849.—FRUIT DRIER—G. W. Henkle, Vancouver, Wash.  
736,520.—TANK—A. Holtgen, S. F.  
736,411.—LOCATING MINERALS—G. I. Leonard, Pasadena, Cal.  
736,752.—ELECTRIC RAILWAY—T. Mahoney, S. F.  
736,837.—BOILER FURNACES—G. Marlow, Sr., Spokane, Wash.  
736,766.—PHOTO TRAY—G. T. McKinney, Walla Walla, Wash.  
736,416.—STOVE PIPE HOLDER—W. H. Medina, S. F.  
736,421.—PUMP—Miles & Storch, Alameda, Cal.  
736,531.—SAW SET—J. Morin, Seattle, Wash.  
736,427.—FOOTSTOOL—Ruth M. Nidever, Myford, Cal.  
736,871.—FOLDING CASE—J. J. O'Brien, San Jose, Cal.  
736,562.—SPOOL HOLDER—Carrie B. Starr, Wilbur, Wash.  
736,797.—HAMMER—G. J. Steele, Canby, Cal.  
736,563.—OIL BURNER—A. C. Stewart, Santa Paula, Cal.  
736,893.—GARMENT—W. G. Turner, French Camp, Cal.  
736,804.—FRUIT LADDER—S. S. Ward, Napa, Cal.  
736,897.—TROLLEY CATCH—White & Duryea, Los Angeles, Cal.  
736,657.—FEED MECHANISM—White & Duryea, Los Angeles, Cal.  
736,661.—OIL BURNER—T. Williams, S. F.  
736,907.—CASING SPEAR—E. C. Wilson, Los Angeles, Cal.  
736,470.—SAW SET AND GAGE—D. Worden, Whatcom, Wash.  
36,495.—DESIGN—BADGE—K. Melrose, S. F.

ALMOND HULLERS

For Sale by—

A. O. RIX, Irvington, Alameda Co., Cal.

FOR SALE.  
Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at OHOWCHILLA STOCK FARM.

Address ... ISAAC BIRD, Merced, Cal.

ENTERPRISE STOCK FARM.

The home of such Shorthorns as Inwood Chief, the prize winning two-year-old of the State, also open class of 1902 and sweepstakes; and Hopeful 57, champion heifer and cow, won first as two-year-old of State and open classes, the winner of sweepstakes cow of any age, also grand sweepstakes of her herd. Young stock, registered and graded, for sale. H. P. EAKLE JR., Woodland, Yolo Co., Cal.

Breeders' Directory.

HORSES AND CATTLE.

HOLSTEINS—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 2-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

CALIFORNIA'S PREMIUM HERD OF Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

JERSEYS, HOLSTEINS & DURHAMS. Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

THOMAS WAITE, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

BULLS AND COWS FOR SALE—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

A. J. C. C. JERSEYS. Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAKS & SON, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

JERSEYS—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

SWINE.

BERKSHIRE AND POLAND-CHINA PIGS, both sexes. C. A. Stowe, Stockton.

TEOROUGHRED POLAND-CHINA FOR SALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

BERKSHIRE, POLAND-CHINA & DUKO HOGS. Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

FOR SALE—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

POULTRY.

SANTA TERESA POULTRY FARM, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

BRONZE TURKEYS. Ed. Hart, Clements, Cal.

SHEEP.

R. H. CRANE, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

BREEDERS' SUPPLIES.

GEO. H. CROLEY, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... POULTRY SUPPLIES of every description. Send for catalogue—FREE.

OAKLAND POULTRY YARDS, Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2502, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

The Thoroughbred BERKSHIRE BOAR, Highelere Oxford 63442.

Sired by Highelere Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young hogs and boars of breeding age from this fine boar and cut of choice sows for sale by CHAS. O. PERKINS, Sacramento, Cal.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES. Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Feeding Perfected," which describes our new Poultry Cramping Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

LIVE OAK STOCK FARM,

Six Miles N. W. from PETALUMA, on the Petaluma and Sebastopol Road.

FRANK A. MECHAM, Prop.

Importer and Breeder of

Red Polled Cattle.

Color Deep Red. Both Sexes for Sale.

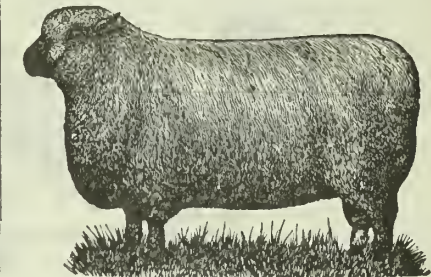
Address all communications PETALUMA, SONOMA CO., CAL.



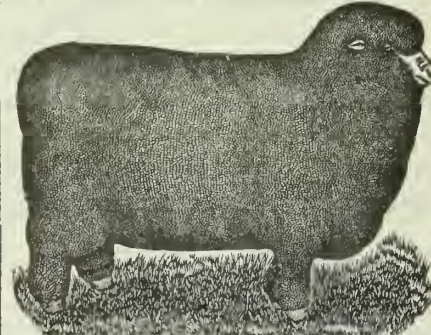
FRANK A. MECHAM.

Importer and Breeder of Shropshire Sheep.

They were all imported from England, or bred direct from imported stock.

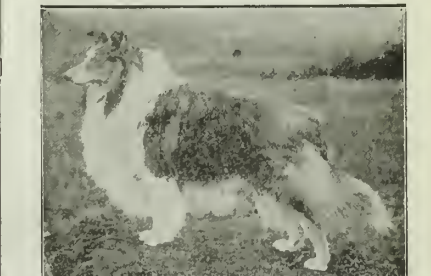


We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MECHAM, Importer and Breeder,

Shipping Points: PETALUMA AND SANTA ROSA, SONOMA CO., CAL.



Thoroughbred Scotch Collies

TOKAYANO KENNELS

Colfax, Placer Co., Calif.



RED CROSS

WIND MILLS

ARE BUILT RIGHT AND

WORK RIGHT. HAVE

BALL BEARING TURN-

TABLE. SEND FOR

CATALOGUE. MAILED FREE.

WOODIN & LITTLE,

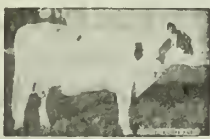
312 Market St. San Francisco, Cal.

CHAS. D. PIERCE, Pres.

W. FRANK PIERCE, Vice-Pres.



RIVERSIDE HERD HOLSTEINS.



DE KOL OF VALLEY MEAD.  
7 day A. R. O. record  
19 lbs. 9 oz. butter.

ROMEO AAGGIE ACME.  
7 day A. R. O. record  
26 lbs. 11 oz. butter.

PARTIES WANTING FIRST CLASS YOUNG BULLS will do well to write us. Prices reasonable, breeding and quality considered. Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days, super per fat.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days, 80 per ct. fat.
Romeo Aaggie Acme.....	431	7 yr.	26.11 oz.	Corona Clifden .....	410	6 yr.	16.3 oz.
Fidessa .....	570	4 "	25. "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d.....	499	7 "	23.15 "	Mountain Juliet.....	382	7 "	15.14 "
Netherland Maud Moore.....	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	378	4 "	15.6 "
Minnewawa Louise.....	510	4 "	22.9 "	Lady Kuts Alpa .....	378	6 "	15.2 "
Niccolo De Kol.....	6	3 "	22.1 "	Pauline Sadie De Kol.....	367	3 "	15.2 "
De Natsey Baker.....	484	3 "	21.10 "	Eva Blanco.....	355	2 "	14.5 "
Ruda 2d Belle.....	401	7 "	20.9 "	Corona Acturas.....	344	2 "	14.1 "
De Kol Konigen Van Freisland	440	8 "	20.9 "	Kornd, ke Pieterij Queen...	300	2 "	13.14 "
Minnewawa Lily.....	364	4 "	20.4 "	Aral a De Kol.....	332	2 "	13.7 "
Dr. sky Artis.....	460	6 "	20.4 "	Oleander De Kol.....	324	2 "	13.1 "
Griselda of Brookfield.....	512	6 "	20.3 "	Rijaneta Clothilde 2d.....	312	2 "	13.2 "
De Kol of Valley Mead.....	435	4 "	19.9 "	Segriss Pieterij De Kol 2d...	355	2 "	12.11 "
Wynetta Princess.....	391	2 "	18.7 "	Western Princess.....	291	3 "	12.11 "
Drusa .....	399	5 "	18.4 "	Painted Lady.....	327	3 "	12.10 "
Wakalona.....	303	5 "	18.3 "	Mary Ann De Kol.....	391	3 "	12.10 "
Olympia Clay.....	526	6 "	18.2 "	Miranda Acturas.....	325	3 "	12.3 "
Victor Idlewild 2nd.....	371	4 "	17.9 "	Rhoda De Kol Colantha.....	353	2 "	12.6 "
Cascade Princess.....	479	8 "	17.2 "	Hengerveld Lass .....	306	2 "	12.2 "
Western Duchess.....	387	7 "	16.6 "	Princess Louise De Kol.....	260	2 "	12. "
Aaggie Martin.....	416	6 "	16.12 "				
Roma Princess.....	366	3 "	16.8 "				

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103 STOCKTON, CAL. 'Phone, SUBURBAN 281.



# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be *removed instantly* without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

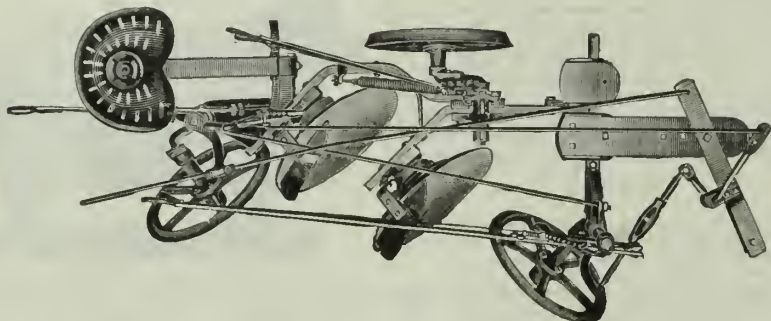
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

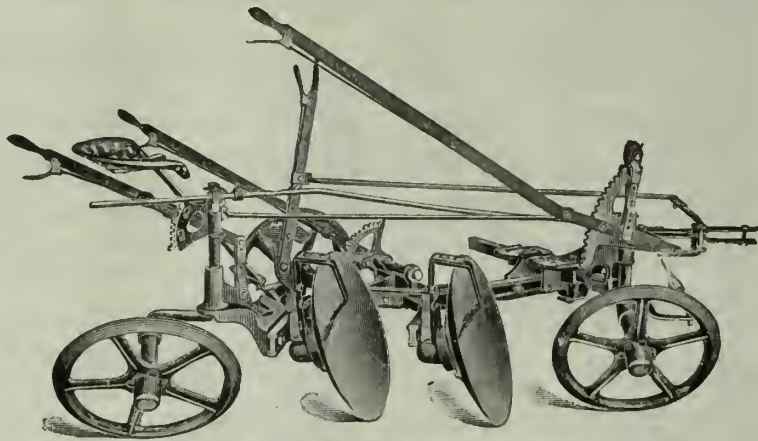
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
No. 31.

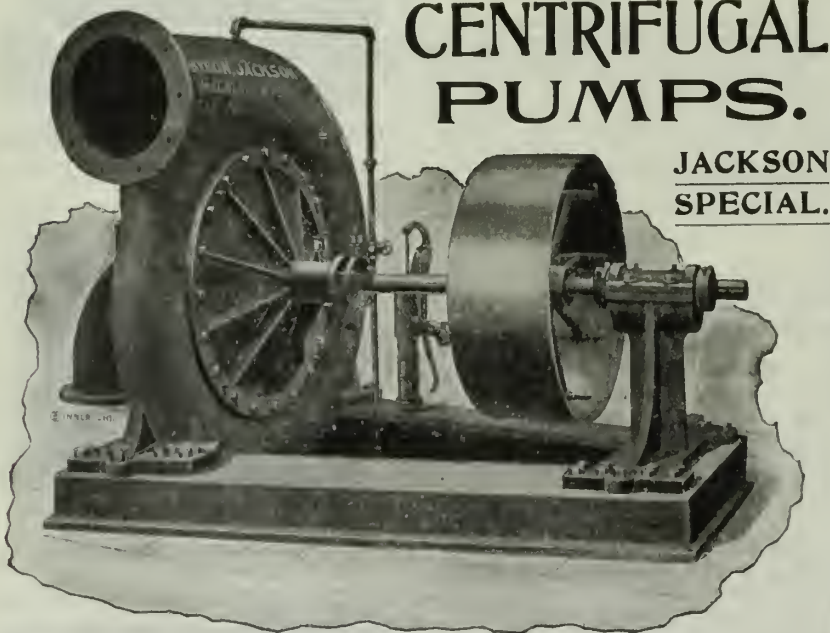


"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.

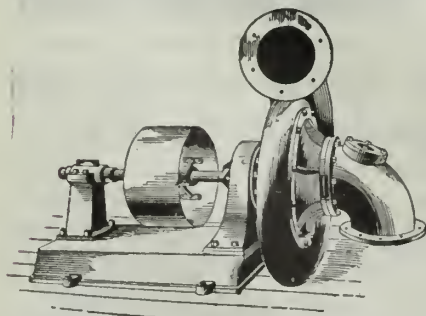


### CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO. Write for Catalogue E.



### PEERLESS Centrifugal Pumps

—AND—

### Gasoline Engines FOR ALL PURPOSES.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

Baker & Hamilton,  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## HERBICIDE

KILLS

### WEEDS AND POISON OAK.

Keeps Gutters and Roadways  
Clean.

## ELECTRIC

### Worm Eradicator

KILLS

### SLUGS, BUGS AND GRUBS

OF ALL KINDS  
On All Varieties of Plants and Trees.

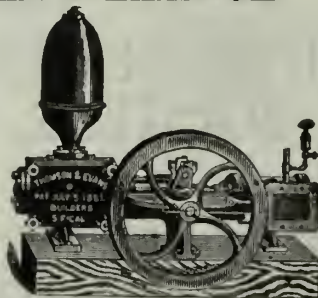
Don't be skeptical, but write for facts and particulars to the Pacific Coast Agents,

ECCLES & SMITH, 91 FREMONT STREET, SAN FRANCISCO, CAL.

## C. H. EVANS & CO., Machine Works.

Thomson & Evans  
Steam Pumps.

DEEP WELL  
and  
POWER PUMPS.



MARINE ENGINES.

SHIP and STEAMBOAT  
WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St  
SAN FRANCISCO.

## FRANCIS SMITH & CO.,

—MANUFACTURERS OF—

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron out, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

# PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



AND CALIFORNIA FRUIT BULLETIN.

**THIRTY-THIRD YEAR.**  
Office, 330 Market St.

The experiments made by applying the oil to parts of the leaf and covering more or less of the surface showed that there is a great difference in the effects produced, as the set of leaves in the engraving (FIG. 4) shows.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, September 12, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Spots Due to the Presence of Oil Which Has Penetrated the Tissue of the Plant; A Fragment of the Epidermis of an Orange Leaf, Showing Stamata; Showing the Internal Structure of an Orange Leaf and a Cross-Section of a Vascular Bundle; Showing a Cross-Section of a Vascular Bundle of an Apricot Leaf; The Shading Indicates Portions Covered With Oil, 161.

EDITORIAL.—Leaf Injury by Distillate Spraying, 161. The Week, 162.

QUERIES AND REPLIES.—Animated Question Mark; Irrigating Strawberries, 162. Barnyard Grass on Tule Land; Prevention of Frost; Growing Medicinal Plants; Eucalypts for Various Conditions; Removing Moss—Working Over Almonds; Dodder by the Acre; Attar of Roses; Apple Drier's Methods; Another Query About Eucalypts; Kelsey Plums for Drying, 163.

HORTICULTURE.—California Fruit Industries in 1903, 164.

THE POULTRY YARD.—Artificial Incubation of Chickens, 165.

THE IRRIGATOR.—The Use of Alkaline and Saline Waters for Irrigation, 166.

AGRICULTURAL REVIEW.—167.

THE HOME CIRCLE.—The Fly; A Bluebird's Experience, 168. Proving His Courage; Cold Storage of Eggs; Meat Salads; Couches and Nerves; Domestic Hints, 169.

THE MARKETS.—Produce Market; Fruit Markets, 170.

FRUIT MARKETING.—German Fruit Imports from the United States; Advice from Washington on Boxing Apples, 172.

AGRICULTURAL ENGINEER.—Good Roads Notes, 174.

PATRONS OF HUSBANDRY.—Tulare Grange, 174.

MISCELLANEOUS.—World's Hop Crop, 168. Notices of Recent Patents; Has a Squirrel Disease Appeared? Making Grain Piles Proof Against Mice; New Patents, 174. The Northern Prune Crop; Raisin Growers Combine, 175.

## The Week.

The week is broken for work and for trade by the two holidays of Labor Day and Admission Day. Even Uncle Sam's weather establishment has to slip a cog and his weather and crop report will be out too late for this issue. Fortunately, however, the weather is set fair for California and the crops are going along without mishap because of the steady suitability of our early autumn climate. It is getting about time to think of rain and to get things snug, but there is nothing threatening now in sight.

The State Fair at Sacramento is still the greatest show thing bearing the agricultural name and it will run its course to the end of this week. Current reports as we go to press are favorable to the character and the popularity of the display.

Local produce trading is slack because of holiday distractions. Wheat is unchanged here, though it is firmer abroad. Barley is firm and tending upward, for the trade covers large amounts. Of the ships cleared this week two are of barley straight and one mixed barley and wheat—carrying 10,000 tons of barley, worth about a quarter of a million dollars. High grade feed barley is now coming very close to brewing prices. The minor cereals are firm and unchanged. There is inquiry from the East for bargains in beans but not much is secured for new beans are not in and old are steadily held. Eastern bean crops are said to be slack. Mill feeds are unchanged and steady. Hay is firm for fine wheat and all grades rather expectant. Beef and mutton are unchanged; large and medium hogs are firm and thought to be rather scant in the State this fall; small hogs are weak. Fancy fresh butter has been pushed up and so have fresh eggs, which brings both butter and eggs off the ice as fast as supplies can be worked along. Cheese is easy for all save mild, new. Poultry is in better shape, the chief demand being for broilers and large hens. Potatoes are quiet and only local trade going on. Onions are easy—more onions in sight than buyers. Tree fruits are doing well. Cannerymen are chasing after suitable peaches, plums and pears. Lemons and limes are firmer, but nothing is doing in oranges. Almonds are being discussed somewhat and there is some difference of opinion as to just what has been done with the recent large purchases. Walnut prices have not

been fixed yet. Choice dried peaches and apricots are firm. New prunes are wide apart between sellers and buyers and old prunes are going out of sight—90,000 pounds went to Germany by the last steamer. Old raisins are all gone and orders turned down. Since the surety of the Association there has been a rush for the old stock. Honey is firm, with light offerings held high. Hops are strong and few offered. Wool is as before and no transactions here.

Unprincipled people are still stealing the attractive name of California to impose upon credulous Eastern people. We heard recently of a new start made by the vendors of the old humbug known as the "California cold process" for fruit preserving. It is now being offered in the East by a bogus "fruit association," located at a point where there is no fruit to preserve by either hot or cold process. Now we read in the Orange Judd Farmer as follows: "The newest egg fraud starts out this time from California, where a woman is sending letters to papers all over the United States telling how she left the county, from which the paper she is writing to is published, two years ago with 'lungs almost gone.' She has taken up the preserving of eggs, and is making lots of money at it, and she says all can do it if they will send a few cents for directions." We hope that all Californians who know of such impositions proceeding from their postoffices will call the attention of the postal authorities to them. We seem to be getting more than our share of the smart Alecks who live by running these small steal joints.

Eastern fruit shipments are still ahead of last year's figures. Un to Monday there were 5,058 cars against 4938 to the same date last year. The running is pretty even, but grapes are carrying so well and selling so well that they will be pushed to the limit this year. It looks as though the game to buy wine grapes cheap was already beaten. The reassertion of the raisin combine, the good outlet at the East will take away the dual purpose grapes, and the straight wine grapes should advance because they will all be needed to make a decent output of wine. The people who want them are doing a good deal of traveling through the State—enjoying the landscape no doubt.

There is ample promise that the Irrigation Congress to begin at Ogden September 15th and to occupy four days, will be the greatest irrigation assembly ever held in this country and that probably means the greatest ever held anywhere. Possibly some of the great spectacular events of Egypt or India may have gathered more people, but in view of the popular participation in shaping irrigation institutions and policies, there have never been anything like our irrigation congresses. The State of Utah has, as our readers already know, generously provided for this meeting, and it promises to be the richest in associations and environment of its class. California will be largely represented, for Governor Pardee will go himself at the head of a full delegation of twenty which he was empowered to appoint, and many California towns and local associations will secure representation. It is true, as the Governor has said, "This will be one of the most important gatherings ever called together in the West, and no State has a deeper interest than California in the questions of irrigation, water conservation and forestry which will be there discussed. I should be glad to see every county in this State represented."

It is currently reported that the sugar trust has been gradually purchasing stock in sugar-beet factories throughout Michigan, until it has obtained a controlling interest in nine big factories, having a combined capitalization of \$6,300,000. It is also stated that as soon as the beet sugar season is over the management of the factories will be placed under one head.

There are no funds with which to pay losses sustained by the ranchers who had property destroyed or stolen by the Folsom prison escapes, so rules Attorney-General Webb.

Advices from Chicago show that there will be made an effort to form an agricultural trust.

## QUERIES AND REPLIES.

### Animated Question Mark.

TO THE EDITOR:—Is it advisable to sow barley the seed of which has been raised on the same land for three or more successive years? Why? What kind of barley hay is best for horses and cattle? Why? Which is most nutritious—barley, wheat or oat hay? Why? Once planted, would it be hard to get red oats out of the land? Can you suggest some kind of forage grass that would keep green all summer after being well watered the middle of May? I am not desirous that it be used for forage purposes after May. When is the best time to plant alfalfa? When is the best time to dig for peach tree borers?—**QUERIST, San Jose.**

As a matter of fact, (1) barley is grown from the seed produced on the land year after year. The reason is because in favorable seasons good results are obtained in this way, and, second, because it is cheaper to use such seed. It is quite possible that not only using seed from another locality but changing the variety would oftentimes be desirable. In fact, some progressive California growers have clearly demonstrated this fact. Hay made from barley (2) without beards is best because of the injury to the mouths of stock from eating the bearded barley. There is a certain amount of beardless barley grown in California for hay purposes, but it does not take universally, because the other variety is more common and possibly a little more hardy and, therefore, retains its popularity. There is very little difference (3) in the nutritive value of barley, wheat and oat hay, as shown by analyses, provided all of them are up to their best condition. There is much more difference between good and poor samples of the same hay than there is between good samples of all of them. The reason is because they all belong to the same cereal group and are similar plants throughout. Of course, some hays are better than others for different animals, as, for example, good oat hay is generally preferred for horses, but this is quite as dependent upon other things in its nature as upon the actual nutritive content. It would not be difficult (4) to get red oats out of the land, providing you merely grow the oats for hay and cut them in the proper stage of maturity for hay purposes, although it is true that under some conditions the oat is quite persistent, and some measures have to be taken in many cases to destroy the oats immediately after germination from the early rains before the land is put down to its crop. It all depends upon the land (5) whether you can get a forage grass that will keep green from May until the end of the dry season. If the land retains sufficient moisture, rye grass will do this; if the land dries out quickly, no grass known to us will maintain its verdure. The best time (6) to plant alfalfa is early enough in the autumn to get a good stand before the cold weather of the latter part of December and January. If the fall rains come early and in fairly continuous showers, this can be readily done by early fall sowing. The best time (7) to dig for the peach borer is whenever you have time during the winter.

### Irrigating Strawberries.

TO THE EDITOR:—Will you kindly inform what implements the strawberry growers of California use to make irrigating ditches, furrows or rills alongside the rows? I would like to ascertain who makes an implement that can be pulled by a horse suitable for this purpose, making the rill on the same side of each row and about the size of a garden plow.—**E. H. SHEPARD, Hood River, Oregon.**

We do not know of any strawberries grown in California in the way our correspondent intimates. We understand that he intends to use something like what is called a furrower or marker, such as is used in the small-furrow system of orchard irrigation, and to have a small irrigation furrow or "rill" along each row in a closely planted strawberry field. We do not undertake to make more than one furrow at a time, and where the plants are set in single rows they are put 2½ to 4 feet between the rows and allowed to spread into a matted row. The irrigating furrow for each row is then made with any small garden plow, and a cultivator is used after irrigation—keeping the land as flat as possible. In the Watsonville district, where most berries are grown for the San Francisco market, quite a retentive soil is used, and the water rises from the ditch to the plants, which are grown in raised rows, the depression between the rows being used for the conveyance



of the water for irrigation. The land is laid off into long beds about 2 feet wide, with a line of plants set on each side of the raised strip, and between these is a ditch space about 14 inches wide. In this district, after the field is deeply plowed, these beds are generally accurately lined off and the bedding up is done largely by hand, shovels being used. The ditch interspace is hand cultivated with hoes. In southern California, where the soil is lighter and upward movement of water from the ditch less satisfactory, the single row, instead of the double matted row, is largely used, as stated, and more horse work is done—the growing of small fruits being more largely carried on by white people. Where Asiatic or south of Europe labor is largely employed the hand work prevails. We know of no special implements being employed in either case.

#### Barnyard Grass on Tule Land.

TO THE EDITOR:—I send some grass that I find growing in Contra Costa county, near the San Joaquin river. The land is of a tule or peat nature, having been formerly subject to daily overflows from the tides, but is now fully reclaimed. I have no knowledge of any such grass being sown on the place, but it seems to have come there naturally. I find it scattered at different points over the ranch, always on land of the tule or peat nature and where the land is reasonably moist. When it receives proper moisture it grows to a height of about 4 feet, and yields quite heavily. Cattle are very fond of it and will eat it down to the very roots. I am anxious to know what it is, and whether in your judgment it is desirable to extend its growth.—TULE FARMER, San Francisco.

The plant, of which you sent sample, is identified by Mr. H. M. Hall of the University botanical department as Barnyard grass (*Panicum crus-galli*). It is widely distributed, in its several forms, throughout the warmer regions of both hemispheres, and is now very common in the United States, where it has probably been introduced from Europe. It is becoming quite common on low lands in California. This grass is generally found on low, damp ground, along ditches and in waste places, and one point in its favor is that it is more tolerant to alkali than are most grasses. It grows rapidly during the summer and often becomes 6 or 7 feet high. Stock are fond of it and it is, therefore, valuable as a forage plant, both for feeding green and, Eastern writers say, also for the silo. Being coarse and succulent it does not dry easily and is, therefore, not well adapted for hay. On account of the large number of seeds it produced, it spreads rapidly and is not easy to eradicate. Whether or not this grass should be encouraged must be determined by wider observation and experience.

#### Prevention of Frost.

TO THE EDITOR:—Can you tell us what has been done in California in the way of protecting fruits from frost? We hear that very satisfactory results have been attained and we are anxious to benefit thereby if possible.—NEW SUBSCRIBER, Michigan.

There has certainly been much accomplished in protecting both citrus and deciduous fruits from frost injuries. We have had the subject under constant discussion in the PACIFIC RURAL PRESS for years, and, in fact, everything that has been done in California has been published in detail in our columns, but it has not all been gathered together. If, however, you will request Prof. A. McAdie, section director, Weather Bureau, Mills building, San Francisco, to send you such pamphlets on the subject as he has prepared, they will be found to include most of the recourses which have been undertaken. After looking over this matter, if you desire to ask specific questions we shall be glad to furnish you with the information, if possible.

#### Growing Medicinal Plants.

TO THE EDITOR:—Another young man and myself contemplate going to California for the express purpose of raising medicinal plants; although if this is not feasible, would be willing to engage in something of a paying nature. We desire to know the cost of land and any other means of obtaining the same; where the best property is situated and prospect, and, in fact, all information which you may be willing to send us. What plants do you consider would thrive and at the same time be a profitable undertaking?—INTENDING IMMIGRANT, New York.

You would need for the successful growth of the largest number of medicinal plants thoroughly good loam of satisfactory depth, with water supply for irrigation of those plants which need it. Probably it would also be much to your advantage to have such

land located in the coast district north of San Francisco, where you would have the fullest possible freedom from extremely high and low temperatures. In such a situation probably scores of medicinal plants could be satisfactorily raised; but the raising of the plants is not the main condition involved. You must determine which plants are in demand at prices profitable enough for you to undertake their culture. The difficulties in the way of profit are in the main two: First, the very small amount of such plants usually called for; second, the fact that other localities well adapted to their culture have the labor supply available at much lower wages than are paid in California. You will have to study the whole matter carefully from an economic point of view before it would be wise for you to proceed in the undertaking you have in mind. Probably the best source of information concerning the demand for medicinal plants would be the large commercial houses on the Atlantic coast which are putting extracts, tinctures and other medicinal preparations on the market.

#### Eucalypts for Various Conditions.

TO THE EDITOR:—I wish to get that eucalyptus that yields large quantities of nectar for bees. Then I wish one variety suited to swampy land such as willows enjoy; also one suitable for rather cold localities.—READER, Fresno county.

One of the eucalyptus species which is best for bee paturage is the *rostrata*. It makes a fine tree, blooms very freely and during a long season and stands frost better than the common blue gum. *Eucalyptus rudis* is also useful as a source of honey and has shown its special adaptations to growth in your valley, being hardy to both heat and cold and thrives in moist ground, as in Australia it grows naturally near the streams. This habit, however, does not seem to prevent its success on dry soils as well, although the growth will be in proportion to the amount of moisture present. The Sugar Gum, *E. corynocalyx*, is also a profuse bloomer, acceptable to bees and flowering throughout several months. It will grow splendidly in the moister plains of the interior valley. In his monograph on the "Eucalypts Cultivated in the United States," Professor McClatchie names the following species as also useful as a source of honey: *Calophylla*, *citriodora*, *hemiphloia*, *lencoxylon*, *longifolia*, *meliodora*, *pitularis*, *polyanthema*, *sideroxylon* and *tereticornis*. Those who wish to plant eucalyptus seeds in variety for honey bees should plant a few of all these kinds to determine their local adaptations to soil and climate and their flowering success. If one has such a collection they will soon furnish seed for the planting the greater acreages of the varieties which seem to be best locally.

#### Removing Moss—Working Over Almonds.

TO THE EDITOR:—The enclosed plant grows in great profusion on my almond trees and spreads from them to apple trees. What I should be pleased to know is the cause of and cure for this moss—how to rid the trees of their present coating and how, if practicable, to prevent its renewal. Almond trees are large and old. Could they be cut back to stumps and then budded to peach or plum, after the fashion of orange budding? If so, what would be the proper season for so doing?—HAYSEED, Ben Lomond.

The moss of which you send sample is quite common upon fruit trees in parts of the State where there is considerable atmospheric moisture present. It is not desirable, because it makes some draft upon the bark and also renders it brittle. The proper treatment is to pull off as much moss as possible during the winter pruning and then, while the tree is dormant, spray the bark with caustic soda at the rate of one pound to six gallons of water. This will give you a clean, fresh bark and kill the parasitic growths. The treatment must, of course, be repeated occasionally as the parasitic plants gain new lodgment.

Almond trees can be cut back and the new growth which is forced out budded to peaches. Budding in the old bark, as is frequently done with oranges, although possible, is not as successful with the almond or peach. It is not desirable to cut back to the stump, but rather to cut back so as to retain the forks of the branches. If this is done in the winter there will be a very free start of new shoots in the spring, from which proper selection can be made and peach buds put in in June or July, with every assurance of success. You can graft in peach scions just before the growth starts in the spring, if you are particularly careful of waxing, as the bark of

the almond and peach is more apt to dry and shrink back than the bark of the apple, pear, plum, etc., and the graft more likely to fail.

#### Dodder by the Acre.

TO THE EDITOR:—I am sending you under separate cover some alfalfa, infected with dodder or love vine. We had our alfalfa seed as we thought selected with much care and paid extra for the supposed good seed. We sowed our seed last spring, with the results as you see. We have not been able to learn anything about it and we have acres infected; unless you can suggest a remedy, we are at a loss. In many places the dodder has gone to seed and, even though we were to destroy the alfalfa and replant, the evil would still remain; it grows with such tenacity, is purely parasitic in nature, with dire results.—NEW COMER, Stanislaus county.

We are very sorry to say that there is not any satisfactory treatment for eradicating dodder known to us, except that which can be applied to small spots such as cutting the infected spot, adding considerable straw and then burning. This destroys the seeding vine and is supposed to generate heat enough to kill the seed which has already fallen and still remains upon the surface of the ground. Such treatment is not applicable where you have the dodder by the acre, but success has been attained in this way in stamping out spots of it. Where the infection is general there seems to be nothing but to plow under the plant as deeply as practicable and resow with clean seed. If the dodder seed is deeply covered by such plowing it seems to be disposed of.

#### Attar of Roses.

TO THE EDITOR:—I am desirous of information about the production of attar of roses. What kind of roses would do best for this product in this locality and produce the best oil?—AMATEUR, Pescadero.

The rose from which the attar of roses is obtained is known as the Rose of Prevence. A number of experiments have been made in securing this variety from Europe and in establishing it in California, but all such efforts have been abandoned without satisfactory outcome. Even if the right variety of rose is obtained and a good growth secured there is the almost insurmountable difficulty in California of not having labor available at rates which would enable the California producer to compete with the European.

#### Apple Drier's Methods.

TO THE EDITOR:—Can you tell me what kind of apple parers the large driers use? I hear the apples when pared are dropped into a bath of strong brine. Are they given a bath of clear water afterwards, or do they go from the brine into the sulphur box direct?—SUBSCRIBER, Alma.

The parers used by the large driers at Watsonville are known as the "Rival No. 2." They can be used either with power or by hand; but hand work is preferred in the Watsonville driers. This machine pares, cores and slices, but in operation there the slicer attachment is removed and slicing is done as a separate piece of work—with the same machine, however. The apples are pared and then sent to trimmers, who remove bits of peel, etc. Then the fruit is dipped in strong brine and sliced. After this it is sulphured. It is not washed in clear water after the brine bath.

#### Another Query About Eucalypts.

TO THE EDITOR:—Which of the eucalypts would be best adapted to this part of the country, that is, the southern part of Sacramento county? The soil is rather heavy clay, while the hills are gravelly and dry. The *Rudis* gum has been recommended as being one of the best.—W. B. S., Galt.

The two eucalyptus species which seem to be most popular among planters in the interior valley at present time, and which have demonstrated their adaptability to both the moist and dry lands of the interior, are *Eucalyptus rostrata* and *Eucalyptus rudis*. *Eucalyptus Gunnii* is also a very hardy and satisfactory species. You can hardly miss it with these three species.

#### Kelsey Plums for Drying.

TO THE EDITOR:—Will you kindly tell me through the columns of your paper when to pick Kelsey plums for drying, and what is their color when ripe?—READER, Fowler.

If any one finds it worth while to dry Kelsey plums at all we shall be glad to hear of it. The color of the Kelsey when ripe depends upon the locality. In the coast valleys and the high foothills they frequently color quite well: in the interior valley they are apt to finish up with a greenish pink.



## HORTICULTURE.

### California Fruit Industries in 1903.

Report by Prof. E. J. Wickson of the University of California, chairman of the sub-committee for California of the American Pomological Society, at the meeting of that society in Boston, Sept. 10th to 12th, 1903:

PROF. S. A. BEACH, Chairman General Fruit Committee American Pomological Society.

SIR: I beg leave to submit the following outline of the present condition of the California fruit industries, following the sequence of topics suggested in your circular of May 30, 1903:

STATISTICAL STATEMENT.—The best general impression of the status of our pomological industries can be had from an examination of the statistics of the kinds and qualities of fruits and fruit products which are shipped beyond State lines. The local consumption of these food supplies, although large per capita, may be disregarded, because the population of California is not large and commercially, except in the case of cherries and berries, local sale is not the motive in production. Cherries and berries are rising in importance for long-distance shipment in fresh form, and both move outward in tins; and yet local consumption is important in disposing of the comparatively small product of all small fruits except grapes.

The following statistics, compiled by the California State Board of Trade, are from transportation records and generally accepted as accurate. For comparison, I repeat the figures presented in your last biennial report, adding those for 1902:

CALIFORNIA FRUIT SHIPMENTS IN TONS.

	1890.	1900.	1902.
Citrus fruits.....	34,209	226,546	*225,668
Fresh deciduous fruits.	34,042	91,176	100,390
Dried deciduous fruits.	32,297	90,052	151,944
Raisins.....	20,560	36,047	47,575
Nuts.....	787	6,518	10,918
Canned fruits.....	40,060	75,556	80,364
Wine and brandy.....	47,650	90,673	88,682
Total.....	209,605	616,568	705,811

\*The shipments in 1901 were 323,871 tons.

An approximate idea of the comparative amounts of different fruits of the deciduous class which are shipped out of the State can be had from the following:

Deciduous Fruits.	Carloads in 1902.
Cherries.....	245
Apricots.....	221
Peaches.....	1,777
Plums.....	1,480
Pears.....	2,003
Grapes.....	970
Apples.....	*309
Mixed.....	20
Total.....	7,025

\*The foregoing statement covers shipments to Nov. 5, 1902, and does not include the total apple shipments, which are probably three times as great as indicated; in fact, direct shipments to Europe alone reached about 450 carloads.

THE COURSE OF VALUES.—On the whole the fruit products of California are being easily disposed of at fairly remunerative rates, and the business is in good heart and enjoys a good outlook. There is, of course, fluctuation in the values of different fruits and in the market conditions which they meet at distant points. Such "off-years" strike the fruits somewhat irregularly and are discouraging first to one special grower and then to another, and as our localities are largely given to specializing, according to favoring culture conditions, there is opportunity for complaint somewhere nearly every year. Complaining is the traditional privilege of farmers, and fruit growers are entitled to their share of it. Still we find that our fruit growing districts have the busiest towns, the handsomest rural improvements, the largest assessment rolls, and are most attractive to home seekers. While these things are true our fruit industries must be counted in prosperous condition, although the greatest anticipations are not always realized.

Although the orchard and vineyard areas are still increasing quite rapidly in the State as a whole, there are some districts in which special extension is notable. The fruits which have recently advanced most notably are the two pomological kings—the orange and the apple.

CITRUS FRUITS.—The planting of oranges on the mesas on the east side of the San Joaquin and Sacramento rivers through a distance of about 400 miles has increased the acreage of this fruit in that region not less than five-fold during the last five years. The profitability of early ripening fruit which can be disposed of before the holidays, cheap land and abundant irrigation water are the chief attractions which have led to this large interest and investment. In southern California, also, orange planting has proceeded and the planting of the standard California orange, the Washington Navel, has been rivaled by

the attention given to later ripening varieties, notably the Valencia Late.

A part of the increase of the orange acreage at the south has been secured at the cost of the lemon by budding over bearing lemon trees to the orange. This has been freely done in southern California—the lemon acreage now being almost wholly near the coast where temperature conditions best befit it and where properly grown and cured lemons are fairly remunerative.

APPLES.—The apple acreage is increasing in all parts of the State, but most notably in the Pajaro valley, including parts of two counties—Santa Cruz and Monterey. This compact area of deep, rich soil with its abundant rainfall and cool summer, because of nearness to the coast, produces Bellefleur and Yellow Newton Pippin apples of exceptional beauty and quality. In this region the commercial handling of the apple has reached the most systematic and greatest development. The output of Pajaro valley apples has increased from 765 carloads in 1897–8 to 2200 carloads in 1901–2, and only about one-third of the trees are now of bearing age.

GRAPES.—The grape is next in increase of planting during the last two years, although the planting does not represent a net gain of acreage. In some parts there is a constant loss of acreage by phylloxera and by the mysterious "Anaheim disease," or by something akin to it. Still the effort to restore the vineyards by the use of resistant roots and the new plantings in parts where no diseases have yet appeared, more than covers, on the whole, the losses in the older regions. Grape prices for wine making have been high for the last few years and promise well; eastern shipment of the most popular table varieties has yielded good profits, and the raisin industry has also been profitable. Under these conditions, with the vast areas of good grape land available and the cheapness with which vineyards can be secured, the passion for vine planting is irresistible. The State has made new provision for research and experiment in viticulture by the experts of the University of California Experiment Station, and there is full confidence that the menaces to the health of the vineyards will be averted.

PRUNES.—The prune acreage of the State at large has declined slightly because of the failure and consequent eradication of trees planted in unsuitable locations. Though the acreage has increased in the best districts such new plantings have been more than offset by the clearings, and the prune industry is now in very promising shape. The crops of the last two years have not been excessive and prices have advanced. During the prune passion the planting of other plums was neglected and considerable areas of plums were grafted over to prunes, because there had been apparently an excessive production of varieties, which could not be cured without removal of the pit, as prunes are, and therefore could only be sold for fresh shipment or canning. This year's experience indicates that the wise planting of shipping and canning plums has a fair outlook.

APRICOTS.—The apricot also has sold well. It is growing in favor, both canned and dried, and is each year winning wide favor in the Eastern States and in Europe.

PEACHES.—The peach has made a distinct advance during the last two years and promises to regain its position as having a greater acreage than any other deciduous tree fruit in California. The passion for prune planting was so strong in the interior valleys a few years ago that the peach was surpassed by it, but since the prune break of 1900 the peach is regaining ground which it never should have lost. The peach combines the three great outlet avenues of fresh shipments, canned and dried products, as no other fruit can. The California peach possesses size, beauty, texture and durability through shipment and canners' processing, which are very strong points in its commercial character.

CHERRIES.—The cherry is gaining ground continually as a long-distance shipping fruit and, therefore, becomes safer to grow, and its acreage is increasing in districts demonstrated to be suitable. Great caution must be exercised in planting elsewhere.

FIGS.—The fig industry comes upon a new basis through the acclimation of the pollination insect which is essential to the success of the Smyrna fig. California Smyrna figs are now being produced in considerable quantities and California is thus equipped to enter into competition with the time-honored Asiatic product for the world's trade in dried figs. Trees of the true Smyrna varieties, and of the wild fig which favors the multiplication of the insect, have been growing for years in different parts of the State, but the insect was absent and the trees unproductive. With these old plantings and the new orchards now being planted, there will be a large product of higher class dried figs than has been produced hitherto.

OLIVES.—The olive has not realized all the expectations which California planters have cherished for it. Planting has practically ceased and considerable acreage has been displaced. There are many difficulties with the olive which may be briefly mentioned: the popularity and acceptability of cheap substitute oils for salad purposes militate directly against profitable production of olive oil, because apprecia-

tion of the superiority of the latter is less liberal than expected; pickled ripe olives are difficult to produce with good keeping qualities; the fruit itself is largely subject to interior decay in advance of maturity; the trees of many varieties which have been largely planted are shy in bearing; trees planted in dry places do not grow and bear as promised by optimistic promoters; the work of gathering the fruit and securing its products is more difficult and costly than calculated. The fact is, the olive was boomed in California along spectacular and speculative lines, and the industry must outlive the mistakes which have been made. California will produce profitably good olives and olive products in suitable places and through the efforts of masterful men and women who can rise to the requirements of production and protection against imitation articles of the trade.

CO-OPERATIVE EFFORTS.—Transportation and marketing problems still occupy a large share of the time which producers can devote to local and State assemblies. Though it is impossible yet to record the permanent success of any great undertaking, still the benefits resulting from such degrees of success as have been attained are notable. The sceptic on the feasibility of co-operative action among our agriculturists might truly claim, for example, that the greatest undertaking, the California Citrus Fruit Exchange, had never secured control of more than half the citrus fruits produced; that the Raisin Growers' Association had not only failed to secure permanent organization, but had difficulty even in getting a one-year contract for 90% of its product, and was therefore, forced to abandon for the present, at least, all its great ambition toward owning its own packing houses, its own establishment for seedling raisins and the distribution of its own products; that the great association of prune growers failed so lamentably in its undertaking to sell at its own prices the 150,000,000 pound prune crop of 1900 that it never was given another crop to sell. It is true that this is a sad record for co-operative packing and selling, for these are the greatest efforts ever made in the State, but the impression changes if a little color is thrown upon the picture. Though the Citrus Fruit Exchange never controlled more than half the product, it was able to double the return per box to growers immediately after its organization by correcting the methods of its rival buyers, and it has exerted a strong influence ever since in correcting abuses, in extending distribution, in reducing fixed charges; in short, it may be said to have rescued the California citrus fruit interest from collapse, and during the present year it has formed a merger with rival buyers to prevent gluts and losses in Eastern markets, an example which was quickly followed by those handling the Eastern shipment of deciduous fruits. Its direct value and its indirect value in showing fruit growers their power when working together are both estimable—and yet it never controlled more than half the crop. The Raisin Growers' Association, immediately upon its organization, secured control of about 90% of the raisin output and fixed the prices at figures that yielded a fair profit to the growers, sold the year's crop, cleared away a considerable carry over from the previous year, and brought a new era of prosperity into the Fresno and Kings county district of the San Joaquin valley, enabling growers to pay off mortgages and have a good supply of ready money besides. It has worked five years or more, never reaching the permanency and perfection of organization which its most ambitious promoters aimed at, and yet always rescuing the raisin interest from exactions and oppressions. The association of prune growers had a most difficult task in its effort to sell at a profit the enormous prune product of 1900, including the output of rival sections and of people distrustful of each other. It had rivals at home and enemies at a distance. It made colossal errors in the matter of ways and means, and from nearly all points of view it failed utterly and will never outlive its bad name. Out of its failure, however, comes a stronger disposition than ever toward the formation of local associations and their affiliation into central control. Lessons have been learned from failure and the air is cleared after the storms. Co-operation among California fruit growers is all the stronger because of the failures it has made.

We have now in California from 75 to 100 local associations, most of them owning property in packing houses, etc., buying and distributing supplies, grading and packing fruit and drying in many cases, selling first-class products under their distinctive brands, and acting together in securing advantages and the like. We have associations of special-product people, walnut growers, almond growers, prune growers, etc., which are in some cases fixing minimum price or arranging public sales, accepting or rejecting bids upon product in bulk, and representing many producers. In these lines of local co-operation steady and stalwart progress is being made, and general affiliations, including these units, will in time bring all our growers together in mutual understanding and joint action.

FRUIT PRODUCTS.—Excepting a few fruits like the citrus fruits and the apple, manufacturing of fruit products continues in California as one of the main purposes in the growth of the fruit. By-products of the orange, such as cured rind, oil, etc., are exceed-



ingly small in amount. Citric acid from waste lemons reaches a higher value, but is still small. Cider making is also a small affair, for the local consumption is limited, and vinegar making, both from cider and wine, cannot endure expansion for the same reason. Dried apples have proved more profitable of late and the product is increasing. But on the whole the manufactured fruit products of California are a main and not a by-product of the orchards and vineyards. Canning, drying and wine making are great industries, and a total export in these three branches of 368,834 tons is more than one-half of the whole tonnage of fruits and fruit products sent out of the State in 1902. It is interesting to note how the different fruits stand on the basis of canned and dried products:

Fruit.	Canned Product. No. Cases (each 24, 2½-lb Tins).	Dried Product In Pounds.
Apples.....	15,972	6,450,000
Apricots.....	294,896	15,750,000
Blackberries.....	21,750	.....
Cherries.....	51,755	.....
Currants.....	794	.....
Figs.....	.....	6,500,000
Gooseberries.....	1,371	.....
Grapes.....	41,364	*350,000
Nectarines.....	509	650,000
Pears.....	458,305	6,575,000
Peaches.....	1,361,288	29,500,000
Plums.....	137,191	**3,450,000
Quinces.....	749	.....
Raspberries.....	3,555	.....
Strawberries.....	15,782	.....
Prunes.....	.....	150,000,000
Raisins.....	.....	100,000,000
Wine (gallons).....	.....	15,000,000
Brandy (gallons).....	.....	2,209,617

\* Not raisins, but dried wine grapes.

\*\* Not including prunes in the dried product, although prunes are included in the figures of canned plums.

Of jams and jellies, which are in part by-products, about 50,000 cases are made annually. Recently there have been quite promising efforts made toward the establishment of by-product factories for making fruit pulp tablets or bricks out of fruit, which is too soft and ripe to be otherwise used. The manufacture of tartaric acid from the waste of the wineries has been pursued to a certain extent, and there is now offered by a responsible California corporation a reward of \$25,000 for a process by which grapes worth \$10 per ton can be profitably used in the manufacture of tartaric acid or in the transformation of the 20% of sugar which the grapes contain into acid, and particularly tartaric acid. This offer will remain open until December 1, 1904.

**VARIETIES.**—California growers are still reducing the list of varieties of fruits grown. Rejections are many; acceptance of new varieties few. To find a very few which surpass all others in meeting commercial needs and to multiply the product of them, bringing each to its most acceptable size and condition—this is the surety of success in wholesale production and trade such as California is pursuing. During the last two years the new varieties which have attracted wide attention are the Sugar Prune of Burbank (as rich in sugar as the Prune d'Agen, that is about 50% sugar in the dried fruit, much larger and nearly a month earlier in ripening), these characteristics bringing it close to an ideal of desirability. Burbank's newer shipping plums are also gaining popularity, notably the Wickson, which has sold at the head of the plum list in Eastern markets this year. Its planting is likely to increase in the interior districts, where it reaches highest quality. Another few years will bring others of Mr. Burbank's varieties into prominence. The Tilton apricot, a chance seedling originating in Kings county, will take a permanent place in the list because of size, even ripening and regular bearing.

**IRRIGATION.**—Irrigation is continually winning wider recognition as a recourse for safety and greater profit even in regions where heretofore deciduous fruits have been grown by rainfall. The older trees become and the greater their demand for moisture in order to produce large, merchantable fruit, the greater is the irrigated area. The addition of water artificially during the rainy season to the amount which comes by rainfall is growing in popularity where the subsoil is deep and retentive enough to act as a reservoir for such water. Where this is not enough, one or two irrigations in the summer are added.

**CULTURE METHODS.**—Winter growth of natural verdure, or of legumes sown for the special purpose, plowed into the soil near the close of the rainy season and clean cultivation during the dry season, is still the rule in California orchards and vineyards. There is a growing interest in a summer-growing cover-crop where irrigation is available; but its desirability is not yet fully demonstrated, except in the extremely hot interior regions, where the soil temperature runs so high, or the bare soil so reflects the heat that the trees are injured thereby. The cover-crop keeps the soil cooler and the air moister, but it requires ample water, or the cover-crop will rob the trees of their supply.

Low heading and regular pruning of the kind and degree which best suit each tree is almost universal, and each year the non-pruners are becoming fewer.

There is a smaller acreage of neglected trees because there is a larger woodpile.

**FROST FENDING.**—Prevention against frost, or, rather, the prevention of low temperature at the place where it would do injury, is becoming a wider recourse, not alone for citrus fruits, which are menaced by frost in December and January, but for apricots, almonds and grape vines, which are liable to injury by spring frosts. The burning of crude oil in properly contrived iron pots—about forty to the acre of trees—has been so fully demonstrated to raise the surrounding atmosphere from 3° to 6° Fahr. that outfits of these pots, with electric alarms operated by thermostats to give warning of dangerous drops of temperature, are being set up in all parts of the State. The old methods of running water and smoke fires are also employed, but the oil burners are surer to protect the fruit.

Windbreaks, for the protection of fruit trees from heavy winds and from prevalent air currents, which may interfere with upright growth or bring too much ocean coolness for satisfactory fruit ripening near the coast, have demonstrated great value in California; but the relation of windbreaks to local occurrence of frost has shown unique phases. It has been found that close-growing windbreaks traversing the course of cold air currents have a tendency to act as dams in such currents and to favor frost formation on their windward sides. To prevent this and to promote circulation of air, which tends to the equalization of temperatures, windbreaks on the low sides of areas to be protected have in some cases been removed and in other cases the trees have been trimmed up to get the storm-break of high growth without interfering with free air flow near the ground.

**PROPAGATION.**—Nothing particularly new has been demonstrated in the line of propagation. During the last few years there has been less of the boom spirit in planting and naturally less speculative propagation by fruit growers and by newly-fledged nurserymen. The result has been the strengthening of our better class of nurseries and the development of specialty propagation. Citrus nurserymen, grape propagators, fig propagators, etc., have reached high success in their chosen lines, and the best of the old line general nurserymen have survived. Better prices have been paid for better trees, and there is, perhaps, better encouragement than ever to push forward enterprisingly in all progressive lines of production and distribution. The exclusion of trees from distant States has seemed a harsh measure, and has only been undertaken with deep regret for the occasion which required it. The result has, however, contributed much toward putting California nursery work upon a better foundation. Some outside propagators have shared in this benefit by securing for themselves local centers of propagation and trade inside State lines.

**HORTICULTURAL INSTITUTIONS.**—The Legislature of 1903 made a change in the horticultural institutions of California by repealing the old law establishing a horticultural commission of nine members, and passing a new law providing for a State Horticultural Commissioner and a deputy, with suitable clerical assistance. The Governor appointed Mr. Ellwood Cooper of Santa Barbara, who, for nearly twenty years, had been president of the old commission, as the first incumbent of the new position, and he appointed Mr. Alexander Crow deputy commissioner. Thus the State horticultural work remains practically in the same hands as before, but unhampered by the machinery of a commission which proved very irregular in movement. The facilities for the important and successful entomological work of Mr. Crow are much improved by the opening of new offices and laboratories in a State building in San Francisco. His inspection of all incoming horticultural goods and products has resulted in the exclusion of many dangerous insects and animals from Asiatic countries and the Pacific islands, for these things are continually presenting themselves either upon imported plants and fruits or in the hands of tourists who are apt to bring them as pets or curiosities. Introduction, breeding and distribution of beneficial parasitic insects continues an important branch of Mr. Crow's work, and he has worked in connection with a collector whom the State provided to seek for desirable acquisitions abroad. Several very notable successes have been made in this work, the most recent being the introduction and effective distribution of *Scutellista cyanea*, a parasite of the black scale (*Lecanium oleæ*), which has proved of great value in South Africa. This new parasite has been established at several points in California and much is expected from it.

As for the San Jose scale, its course is practically run in California, and it has ceased to be an object of fear; in fact, it is hardly an object of interest. After it was demonstrated that it could be held below the point of injury by the use of the lime, salt and sulphur wash it became so reduced by a true parasite (*Aphelinus fuscipennis*), and was so preyed upon by several predaceous insects as well, that seldom is spraying now found necessary. Only where it may be carried into new places in advance of its enemies can it do any serious injury.

**AMATEUR EFFORT.**—As for amateur fruit growing in California there is exceedingly little of it and only in the smallest degree have we come to selecting

varieties on the basis of amateur preferment. Even in suburban districts fruit planting is apt to run to acreage and beyond garden limits, and in suburban gardens the culture methods and the varieties are the same that have proved adaptable and suitable to commercial purposes. There will come a time, no doubt, when we shall establish amateur standards, but they are practically out of sight at present.

## THE POULTRY YARD.

### Artificial Incubation of Chickens.

By O. M. WATSON, Poultry Expert of the South Carolina Experiment Station, Clemson College, S. C.

Artificial incubation or hatching of chickens with an incubator has long since passed the experiment stage. Incubators are used successfully by thousands of poultry breeders all over the world. The rapidly increasing demand for early hatched chickens makes the use of incubators a necessity.

**SOME ADVANTAGES OF INCUBATORS.**—By using an incubator chickens can be hatched earlier in the season. By having early hatched chickens much better prices can be obtained, and the chickens mature earlier in the fall, and will commence laying before winter sets in, and if properly cared for a larger number of winter eggs can be obtained. By using an incubator hens can be stopped from sitting and can commence laying again. A much larger number of chickens can be raised on a small lot. An incubator is time saving. It requires fourteen to sixteen large hens to cover 200 eggs, and to look after these hens properly will require three times as much time as a 200-egg incubator will require. It will take eight gallons of oil to the hatch with a 200-egg incubator, which, at 15 cents per gallon, will amount to \$1.20. It will take half a pint of corn per day to properly feed a sitting hen. For sixteen hens, four quarts a day would be required. Four quarts per day for twenty-one days would amount to eighty-four quarts. With corn at 64 cents per bushel (2 cents per quart), the cost of feeding sixteen hens for twenty-one days would amount to \$1.68. It costs less to heat the incubator than to feed the hens. By having the incubator thoroughly disinfected before the eggs are put in we avoid the worry and trouble of lice and mites.

**WHY MANY PEOPLE FAIL WITH INCUBATORS.**—A great many people have an idea that all that is necessary is to get an incubator, put the eggs in, heat it up and let it alone. The advertisements of manufacturers of incubators are somewhat responsible for this. A certain amount of attention at the proper time is absolutely necessary.

A man will become interested in an incubator and will buy one. When it comes his hens are not laying much. He wants to start it up at once, so he goes out to get the required number of eggs. He gets all he can from his friends and the balance from the store. No matter what sort of weather they have been through nor how long they have been kept; no matter what sort of hens laid them nor what sort of care the hens had, all he is looking for is eggs. He puts his incubator anywhere, where it will be out of the way, and starts it up. He hatches about 10% of sickly chickens, and then says that incubators are worthless and throws the incubator into a shed and gives it up.

**THE PLACE TO PUT AN INCUBATOR.**—The proper place to put an incubator is in a room or cellar where the temperature is not variable. The greatest trouble with a cellar is too much moisture. No matter if the temperature in the room is high or low, so it is not subjected to sudden change. A brick cellar where it is not too moist is the best place. By having a story above, the room is not affected by the heat from the sun, and the thick brick walls do not cool off as quickly when it is very cold outside. A great deal of trouble can be avoided by having the incubator in a room of this sort. The room should be well ventilated, so as to have a constant circulation of pure air. Do not put the incubator where it will be in a draught.

**THE KIND OF EGGS TO HAVE.**—A great deal depends upon the kind of eggs you have to put in an incubator (or under a hen). The eggs should be fresh and from good, healthy, vigorous stock. As the eggs are gathered day by day they should be kept where they will not get too cold or too warm. Select eggs as near even size and color as possible. The eggs should be turned once a day to keep the yolk suspended in the center. It is best not to keep eggs more than two weeks. The fresher they are the better.

**CARE OF INCUBATOR.**—The incubator should be started up several days before the eggs are put in. Heat slowly and gradually turn up the flame. Watch it constantly, and when the thermometer registers 103°, screw the nut on the connecting rod until the cap over the lamp is raised about ¼ of an inch. It is important to know that the regulator is working all right before the eggs are put in. After the temperature is regulated, put in the eggs and close the



doors, and do not open them for forty-eight hours. It takes the eggs from thirty-six to forty-eight hours to get warmed through, so do not be surprised to find that the thermometer does not register 103° right off. Just keep the flame as you had it before the eggs were put in.

The lamp should be filled and cleaned and the wick trimmed every night. This insures a good steady flame through the night.

After the eggs have been in the incubator forty-eight hours, they should be taken out and turned twice every day. It is not necessary to turn them completely over each time, but just enough to keep the yolks from settling to one side.

**TESTING THE EGGS.**—On the seventh day the eggs should be tested and the infertile ones taken out. This is done by inclosing a lamp in a box, with a hole in one side the shape of an egg. Hold a fresh egg up to the light and it looks perfectly clear. When a fertile egg has been incubated seven days, a dark spot surrounded by a network of small veins can be seen. All eggs that still look clear after the seven days' incubation are infertile and should be taken out. These infertile eggs can be used to cook, or can be cooked and fed to the young chickens. On the tenth and fourteenth days the eggs should be tested and the dead eggs removed.

**HATCHING.**—The chickens will commence to hatch on the nineteenth and twentieth days. After the hatch commences, do not open the door of the incubator until the end of the twenty-first day. A great many of the details of the management of an incubator have to be learned by experience. Full directions for operating accompany each incubator and should be carefully studied before the incubator is started up. There are quite a number of good incubators on the market. Avoid buying an inferior machine because it is cheap. The Cyphers and the Prairie State incubators have been used successfully at this station for two seasons.

**RAISING THE CHICKENS.**—Most beginners find more trouble in raising the chickens than in getting them hatched. That is due largely to lack of information.

Regular attention is absolutely necessary whether chickens are raised in brooders or with hens or capons. They should be fed at regular hours.

It is also necessary to have everything clean. Where brooders are used they should be cleaned and clean sand should be put on the floor every day. Clean sound food should be used. No food should be left to sour.

**FOOD.**—Most people make the mistake of feeding the young chickens too soon after they are hatched. During the period of incubation a part of the egg is set apart for the food of the young chicken. This food is ready to be digested and assimilated without grinding, and when the chick is hatched the digestive organs are filled with this food. This is enough to last them twenty-four hours, and no food should be given them until they are twenty-four hours old. When they are taken out of the incubator they should be put on clean sand, where they can fill the crop and gizzard with grit. When they are fed before they have eaten grit, they are not able to grind the food properly, and we consequently have impaction of the crop and gizzard. The first food to be given is bread. This bread is made of corn meal and wheat bran, equal parts, mixed with salt, buttermilk and soda, and thoroughly baked. It is important to bake it thoroughly done so that it will not sour. They should be fed on this five times a day for the first week. Feed just what they will clean up each time, and if any is left take it away. After the first week give them bread in the morning and feed cracked corn, cracked wheat and millet seed; this should be thrown in straw, so that they will have to work to get it. Be sure they have clean, fresh water all the time. After they are two weeks old they should be fed meat scraps once a day. Buttermilk or skimmed milk is an excellent food.

## THE IRRIGATOR.

### The Use of Alkaline and Saline Waters for Irrigation.

By THOMAS H. MEANS, in charge of alkali reclamation work, Bureau of Soils, U. S. Department of Agriculture.

During the summer of 1902 a representative of the Bureau of Soils visited the oases of the Oued Rihir country, in the desert of Sahara, in eastern Algeria. In these oases artesian waters carrying very large quantities of soluble matter are used successfully for irrigation. From the information gathered there, and from experience in this country, it seems that the amount of soluble matter allowable in an irrigation water has been greatly underestimated by American writers, and that many sources of water which have been condemned can be used with safety and success, provided the proper precautions are taken to prevent the accumulation of the salts. As the precautions are those which should be taken by every irrigator, even if pure water is used, it seems an important matter to bring before the American people the methods in use in the Sahara.

The staple crop grown by the Arabs in the oasis country is the date, the fruit of a palm tree known

to be one of the plants most resistant to alkaline or saline conditions of the soil, but in addition to this considerable quantities of the deciduous fruits, garden vegetables and alfalfa are produced for home consumption.

Some of the vegetables successfully grown are those considered sensitive to alkali, and yet they were being irrigated with water containing in some instances as much as 800 parts of soluble salts to 100,000 parts of water, sometimes as high as 50% of the salts being sodium chloride.

The limit of concentration for irrigation water in the United States, even where only the most resistant field crops are to be grown, has been placed by some authorities at thirty parts sodium chloride (common salt) or sodium carbonate (black alkali), and at from 170 to 300 parts of the less harmful salts, per 100,000 parts of water. The Bureau of Soils, however, several years ago insisted that water of a somewhat higher salt content might be used if the soil had good natural drainage, or artificial drainage were supplied, and the methods of irrigation were modified to suit the different conditions. Thus in 1899 the following statements were made after a study of soils and alkali conditions in the Pecos valley, New Mexico:

"Next to the ownership of the land and the labor questions, the most important cause of the trouble in the larger portion of the Pecos valley is the high salt content of the irrigation water, especially in certain seasons.

"At Roswell the principal water supply contains about seventy-six parts of soluble matter in 100,000 parts of water. At Hagerman this is increased to about 200 parts; at Carlsbad, to 240 parts; at Florence, to 280 parts; Red Bluff, 316 parts; at Pecos City, Texas, to 400 parts; and below Pecos City to over 500 parts. Five hundred parts of soluble matter may be taken as the extreme limit of endurance for plants, while 250 or 300 parts mark the danger point at which the results of the use of the water are very uncertain.

"The limit of endurance for most cultivated plants in a water solution is about 1% or 1000 parts of the readily soluble salts in 100,000 parts of water, but it must be remembered that in field culture the water is applied to soils already containing more or less of these salts, and also that evaporation and consequent concentration immediately set in after the application of water. It was found at Carlsbad that about 300 parts of soluble matter per 100,000 parts of water marked the extreme limit of safety of the use of the water at that place.

"One thing should be said in connection with the Carlsbad area, which seems rather anomalous in view of the statements of others investigators, namely, that with a water supply so near the limit of crop endurance as this becomes at times and in those areas in which there is already a large accumulation of salts, economy in the use of irrigation water, which is generally recommended in alkali regions, is one of the worst methods which can be practiced. Where the soil contains a relatively large amount of salt and but little water containing much salt is frequently applied, the ordinary evaporation will increase the salt content of the soil to such an extent that crops can no longer survive, whereas if adequate drainage is provided, and a large amount of water is used, the excess of salt resulting from the evaporation of previous applications of water, may be removed, and the soil moisture be maintained at nearly the same concentration as the water supply."

**THE ARABS TAKE THEIR STRONGER.**—The fact that the Arabs in Algerian oases are actually growing sensitive plants by the aid of irrigation waters containing from 400 to 800 parts of soluble salts, in some instances 50% sodium chloride, shows that the Bureau has been on the conservative side in its estimates, and should encourage a more hopeful feeling among the people occupying areas where only alkali water is available for irrigation.

The prerequisite to the use of water of high salt content in irrigation is the knowledge that the methods employed are opposed to the teachings of most American writers on the subject. Those who place the low limit of safety for alkaline irrigation waters have taught that where water was badly alkaline irrigation should be sparing. They have not insisted on thorough drainage, and they have warned irrigators against too frequent irrigation. With such practices the limit of concentration which they set is probably high enough, and even then all except the most sandy soils or those with exceptionally good natural drainage would ultimately be damaged.

**HOW THEY DO IT.**—The methods in the oases are quite different. The Arab gardens are divided into small plots, about 20 feet square, between which run drainage ditches dug to a depth of about 3 feet. The soils being very light and sandy, this ditching at short intervals insures the most rapid and thorough drainage. Irrigation is by the check method, and application is made at least once a week, though often two wettings a week are deemed necessary. A large quantity of water is used at each irrigation. Thus a continuous movement of the water downward is maintained, there is little opportunity for the soil water to become more concentrated than the water

as applied, and the interval between irrigations being so short, but little accumulation of salt from evaporation at the surface takes place. What concentration or accumulation does occur is quickly corrected by the succeeding irrigation.

The native gardens are situated in the date palm groves and the vegetables and fruit are grown in the partial shade cast by these trees. The natives not only have the question of very saline irrigation waters to contend with, but the soils originally are often very alkaline. In three years they reclaim land too salty to grow the minor crops, using the saline water for that purpose, following the same plan of drainage and weekly irrigation as where crops are growing. One garden situated on the side of a salt flat and originally very saline was visited. Here alfalfa was in very good condition, and fig, pomegranate, melon, tomato, cabbage, pepper and other plants were growing luxuriantly. The reclamation of this plot by irrigation twice a week had taken three years.

**CHOOSING PLANTS FOR ALKALI WATER.**—The native gardeners exercise great judgment in adapting their crops to the soil conditions. Where most alkaline the date palm alone is found; in other parts of the grove are grown the fig and pomegranate, and in other parts the vegetables less resistant to alkali. The amount of salt in the soil sufficient to injure the palm was not determined, but the French were unsuccessful in an attempt to establish a grove, the water used in irrigation being taken from a salt pond and containing, according to field determinations, 3 parts sodium carbonate, 5 parts sodium bicarbonate, and 1036 parts sodium chloride in 100,000 parts.

Enough has been written to show that much more can be done with alkaline irrigation water than has hitherto been generally thought possible, and while the intensive culture of the Algerian gardeners is not suited to our Western conditions, there is believed to be no reason why their methods cannot be adopted, even with an improvement in point of economy, to more extensive cropping of the soil.

The soils in the Pecos valley are not unlike those of the oases, and the general conditions in the two places are somewhat similar, although the irrigation water, even at the lowest stage of the Pecos river, is not as alkaline as the artesian water of the desert, nor are the soils naturally as alkaline. Employing the Algerian method of frequent irrigation with generous amounts of water on land well drained by open ditches or tile drains, large areas now out of cultivation might be used to grow alfalfa, truck and other crops.

It is believed that the information conveyed in this circular will be of great value to the people of this country residing in regions affected with alkali, and that it will result ultimately in bringing into cultivation much land that has hitherto been thought worthless because of the character of the water available for irrigation.

## THE FIELD.

### Too Many Ears—Pig Feeding.

**TO THE EDITOR:**—As to Mr. Fred Lummer's corn crop nobody that ever was in a corn country will doubt his having 75 or 80 bushels of corn per acre, when he has 15 or 20 ears of well filled corn to each stalk. We used to get that much and even 100 bushels with one and two and occasionally three ears to a stalk in Arkansas. I have heard of 150 bushels in Nebraska, but they had three well filled ears and a gourd full of shelled corn in the tassel.

**FEEDING PIGS.**—When one has not the chance of running pigs on clover or alfalfa can it be given to them profitably by cutting second-crop alfalfa hay short or any other way? If so, is it best fed dry or soaked or steamed or mixed with something else? Please give your opinion as to whether this can be made profitable or not. To be sure we expect to feed something beside alfalfa hay, but whether it should be mixed is the thing, and how to get the best results.—ARKANSAS FARMER.

It will be a good plan to cut and wet down and mix in ground feed if you can get it cheap enough. It will not pay to cook the stuff.

### World's Hop Crop.

According to official statistics, the world's hop crop for the years 1902 and 1901 were as follows, in round numbers:

Countries.	1902 Pounds.	1901. Pounds.
Austria-Hungary .....	19,870,400	34,473,780
Germany.....	53,900,000	27,544,000
France.....	4,400,000	4,950,000
Belgium and Holland.....	4,400,000	9,900,000
England.....	36,300,000	69,300,000
United States.....	28,600,000	41,800,000
Australasia.....	1,100,000	1,760,000
All other countries.....	4,769,600	19,272,220
Totals.....	153,340,000	209,000,000

The decrease in the world's crop of 1902 was due, as will be seen by the table, to the diminished crops of England and Austria-Hungary.—Ethelbert Watts, Consul, Prague, July 22, 1903.



## Agricultural Review.

### ALAMEDA.

**THE FRUIT CROP.**—Niles Herald: The apricot crop generally is considered considerably smaller than last year, but locally the yield is about the same. The average price paid last year by canners was about \$15, while this year it will reach about \$27.50. The dried product brought about 5c last year, and this year prices indicate 7½c per pound. Prunes are coming in now in large quantities, but the yield is only about 60% of last year's crop. They sold green for \$10 to \$15 last year, while \$15 to \$20 per ton is being paid this year. The indications are that the dried fruit will range at about 2½c to 2½c this year, as compared to 2c to 2½c per pound last season. The almond yield promises to be about the same as last season, but there is a question as to whether the quality will be as good. The prices are about 1c under last year's. A conservative estimate places the crop here at about fifteen carloads, almost all of which have been sold.

**BEE TRACKS TO BE LOWERED.**—Pleasanton Times: The bee tracks are to be lowered about 18 inches when it is thought that unloading with nets will prove a success. A majority of the bee farmers will then adopt that method.

### BUTTE.

**GOOD PRICE FOR WHEAT.**—Gridley Herald: The best sale of wheat from a price point of view was that made last week to F. G. Moesch by E. Wickman of this place. Mr. Wickman sold 2000 sacks of white wheat, delivered at Silsby's switch, for \$1.52½ per cental. There was some spirited bidding by the buyers, including several from the Sacramento river. The grain went to the Buckeye mills at Marysville.

**HEAVY PACK OF PEACHES.**—The cannery at Gridley is now putting up Phillips peaches, the beautiful clear yellow peach that makes one of the finest canned products in the whole list of fruits. In about a week the run on Salways will begin, and 100 tons of this variety of peaches will be put up. The run will continue for several weeks yet and the season's pack will exceed that of any year in the history of the cannery, as on Monday the pack had already passed that of the whole season last year.

**ALMOND YIELD.**—Almond gathering is in progress on the Corwin place above Central House. Mr. Harwood, the superintendent of the ranch, thinks he will have about twenty tons from the sixty acres of trees on the place.

### CONTRA COSTA.

**WINE GRAPES \$21 PER TON.**—Brentwood Enterprise: Andrew DeMartini is engaged hauling wine grapes to the S. P. depot this week. His wagon holds 133 boxes and three trips includes a box car load. Mr. DeMartini is now receiving \$21 per ton for the grapes.

### FRESNO.

**APIARIES INSPECTED.**—Democrat: Inspector of Bees F. G. Storey filed his August report with the supervisors. Out of 45 apiaries inspected, containing 1555 stands, 6 were found to contain foul broods. The apiaries inspected were 10 near Fresno; 1, Selma; 7, Fowler; 8, Laton; 3, Wildflower; 8, northwest of Lemoore; 5, Summit Lake; 2, Riverdale, and 2, Central Colony. The foul broods were found as follows: Fresno—T. M. Skelton, 2 stands; M. Madary, 1 stand; Central Colony—R. White, 2 stands; W. M. Eckhard, 1 stand; Wildflower—J. F. Crowder, 1 stand; Selma, C. S. Taylor, 1 stand. H. F. Chrisman was granted a certificate of health on 300 stands and a permit to remove them to Tulare county.

### INYO.

**ANTHRAX.**—Sacramento Union: Dr. Charles H. Blemer, State Veterinarian, who has returned from an inspection of cattle disease in Inyo county, states that the so-called mysterious disease that has been devastating the herds in that county is without doubt anthrax in an aggravated form. He states that he has done all in his power to prevent further spread of the disease and has had a consultation with the Board of Supervisors of Inyo county, who agree to appoint men to have all carcasses of animals that die from the disease burned at once. He says that the cold weather, which in these altitudes comes early, will do much toward checking the disease, but he fears that the residents of that section will be troubled with it for some time to come.

### KINGS.

**PILING UP LOTS OF HONEY.**—Hanford Journal: J. P. Gaunt and his son, W. A. Gaunt, engaged in the bee business near Armona, state that there is an unusual amount of honey being piled up by

their bees now; that the bees are working better than they have in the past five years. The bee men attribute the large amount of honey being gathered this fall to the fact that the season is a dry one, and in dry years there is much more nectar in the blossoms than in a wet year.

**RECORD OF ONE HARVESTER.**—Hanford Sentinel: The steam harvester of J. W. Barbour has completed its work for this year. From the time the machine landed here until it had been delivered to the ranch last Saturday, fifty-four days had elapsed. During that time the machine was set up, taken down to the lake region, gotten ready for operation, several Sundays counted, as the men work at repairing it, and 2000 acres of wheat were harvested, with an output of approximately 24,500 sacks of wheat turned out for the market.

**WONDERFUL GROWTH OF TREES AND VINES.**—E. T. Cosper has nine young Balm of Gilead trees which he planted sixteen months ago, at which time they were but about 1½ inch in diameter, and now they are at least 4 inches in diameter. He also has a rosebush of the Le Marc variety, which he set out at the same time, and some of the branches on it are now 15 feet long, although they were trimmed back this spring, and at the time the bush was planted it was about the size of a lead-pencil.

### MARIN.

**HEAVY OUTPUT OF GRAIN BAGS.**—A San Quentin dispatch says the output of grain sacks at the jute mill of the State Penitentiary is now larger than ever before. The plant is turning out an average of 18,500 bags per day, an increase of 3500 bags over the best previous record. The increase in the output for the past four years is over 3,000,000 more than in any previous four years. There are about 800 convicts employed in the mill, and they work eight hours per day, Sundays and holidays expected.

### MERCED.

**GOOD PRICE FOR BEEF.**—Express: Three carloads of fine steers, numbering seventy-five head, were shipped at Livingston last week by J. S. Jones and G. C. Jones, Merced river ranchers and cattlemen. One-third of the shipment belonged to the first-named party. The price obtained was 7½ cents a pound, the total amount being \$3500.

### MONTEREY.

**NEW BEET PLOW.**—Salinas Index: E. P. Iverson has invented a new beet plow which is a great improvement over any implement hitherto used in the harvesting of sugar beets. The plow is on wheels, and the operator occupies a seat much the same as on a common sulky plow, manipulating a lever to raise and lower the beet digger, as may be required. Four horses are required to pull the plow.

### PLACER.

**A BIG TOMATO.**—Colfax Sentinel: An extra large tomato was brought into town by Mr. H. M. Bayne. It grew on his ranch near Colfax; and was the natural product of a vine which had no more care or attention than others about it. This tomato only lacked one ounce of weighing four pounds and it measured just 22 inches around. It is on exhibition at the State Fair.

### SACRAMENTO.

**LOCAL HOP PRICES.**—Union: For about a week hop buyers have been offering 23½ cents for hops in Sacramento, but so far as can be ascertained few have been transferred on that basis. Growers are generally waiting for at least 25 cents. In this they feel justified on account of reports from Oregon and other points, especially England, where there is said to be a dearth. Recent conditions in Oregon and Washington have brought the crop out in better shape than growers expected, yet the shortage is material, and will amount to at least 20%, notwithstanding the increased acreage over last season. The product of the Sacramento and Yolo county yards is prime and will be in good demand.

### SAN BERNARDINO.

**GOOD CROPS IN YUCAIPE.**—Times-Index: The apple crop begins to look well and promises a big harvest by and by. The great apple orchard of A. A. Warren is now assured as a new factor in the output of Potato canyon. Of the 1250 new trees only 45 failed to grow. And this is not all of the wonders of his work. Mr. Warren planted in between the rows of apple trees about seven acres of the George H. Cooley Irish potatoes—a potato brought from Colorado by Mr. Cooley. And now Mr. Warren is hauling to market from twenty to thirty tons of the toothsome tubers. Of course, Mr. Warren is a worker and has plenty of water.

**SPRAYING AND FUMIGATING.**—Pomona Progress: Horticultural Commissioner G. Holbrook of San Bernardino county has

started the work of fumigating and spraying at Ontario. There are two fumigating and one spraying outfit at work. About sixty-five new tents have been purchased and a new spraying pump, so that the county is prepared to do thorough work this season. The inspector for the county has examined all the orchards in the county, and those which are infected will be either fumigated or sprayed—according to the wish of the owners of the orchard—within the next three months. Most of the orchards which are bothered with the scale are said to be in the western part of the county, around Upland, Ontario and Cucamonga, although some are troubled with the pest at Redlands. The work is under the direct control of Mr. Holbrook.

**FIRST PAYMENT ON BEETS.**—Chino Champion: On Tuesday, Sept. 15, the first month's delivery of beets will be paid for. Manager Schroeder says this will amount to \$90,000, to be distributed among the farmers delivering beets.

### SAN JOAQUIN.

**HEAVY ALFALFA CROP.**—Stockton Mail: J. Cowell, the well-known farmer residing near Lathrop, has cut and cured the fourth crop of alfalfa hay this season. For several days he has had several teams hauling the feed to this city, as he has sold a lot of it loose for \$9.50 a ton. The hay is very fine. It was liberally irrigated from the Stanislaus Water Co.'s ditch and was grown on the uplands.

**FANCY FIGURE FOR WHEAT.**—Stockton Independent, Sept. 5: A lot of 200 tons of milling wheat sold yesterday for \$1.58½ on a Stockton basis. It was disposed of by a local grain man to a mill owner outside of Stockton. The lot was especially fine and the miller was anxious to secure it. The managers of the local mills asserted that they were securing all of the wheat they needed at not over \$1.50.

### SANTA CLARA.

**PRUNE CROP LIGHT, BUT OF GOOD QUALITY.**—San Jose Mercury: Prune growers in the mountain sections report that prunes are dropping very slowly this season. Taking the valley as a whole, now that active picking has been going on for a week or so, it is readily seen that the crop is much less than the figures placed upon it some weeks ago by even the most conservative. In the orchards that made the best showing the prunes were nearly all on the outer branches, making the actual number of prunes to a tree much less than appeared. As to size and quality, the valley never had so fine a crop; as to quantity, the crop is exceedingly light as compared with the average.

**PACK THEIR OWN PRUNES.**—Glroy Gazette: The prune growers of Los Gatos have signed an agreement to pay \$1.50 per ton for packing their prunes at the Los Gatos Cannery. That amount covers complete packing process, rent of building, packing apparatus, etc., and service of Mr. Hooke, the manager, and the office force. By this process the fruit will cost the grower \$1.50 per ton, from the time it is delivered at the packing house until it is prepared ready packed for the market. The scheme is meeting with much favor, and already 500 tons have been signed.

### SANTA CRUZ.

**APRICOTS SHOW LIGHT SHRINKAGE.**—A Pajaro dispatch states that 168½ tons of apricots when dried, showed a weight of 75,872 pounds, the shrinkage being extremely light. The lot sold for \$5500.

**FIRST BELLEFLEURS.**—Watsonville Pajaronian: The first carload of Bellefleur apples from Pajaro valley this season was shipped to Los Angeles on the 3rd inst. The first shipments of this variety of apples are always made before the fruit has reached maturity, but the trade demands them, and packers believe in giving people what they call for. It will be some weeks yet before the Bellefleur will be at its best.

**SALE OF NORMAN HORSES.**—Geo. W. Rowe shipped last week to the Henry Cowell Co., at Santa Cruz, four fine Norman horses, their total weight being 6410 pounds. Ernest E. Cowell purchased them from Mr. Rowe, paying \$850 for them. They are well broken and gentle, and for a few seasons past have been used principally in beet hauling.

### SONOMA.

**SHIPPING EGGS TO NEVADA.**—Santa Rosa Republican: The Santa Rosa Poultry Association has found a market for eggs in Nevada. On Wednesday they shipped five cases to Reno, this being the third shipment which has been made to that State. Letters are coming in from various portions asking for regular consignments. The association is now making shipments three times a week.

**GOOD RECORD AS HOP PICKERS.**—Windsor Herald: At the Farmer & Peterson hop ranch last Saturday Miss Hattie Bruner picked 539 pounds of hops; John

Bruner, 527 pounds; Grant Bruner, 370 pounds, and Mrs. George Smith (nee Bruner) 526 pounds, making a total of 1967.

### STANISLAUS.

**PROFITABLE DAIRYING.**—Modesto Herald: Frank Sanders, living at Westport, planted 120 acres to alfalfa two years ago. He has just the same kind of land which is so abundant in the San Joaquin valley, and he has water. He has 45 milch cows, and his alfalfa affords him abundant hay and ample pasturage. Last month his creamery receipts amounted to over \$240.

### SUTTER.

**LARGE CROP OF STRING BEANS.**—Yuba City Farmer: Jimmy Imai, the Japanese contractor, has forty men at work at the Jackson orchard, below Yuba City, picking his crop of string beans for the Sutter Preserving Co.'s cannery. He is delivering about six tons per day, and the quality is extra choice. The land there is well adapted for this crop.

**LARGE SUNFLOWER.**—A. L. Wheeler exhibits a sunflower of the Mammoth variety, which is surely true to its name, measuring 56 inches in circumference and full of fine seeds.

### TEHAMA.

**THIRTY-TWO POUNDS OF PRUNES ON A SMALL LIMB.**—Red Bluff News: A limb of a prune tree, heavily laden with fruit, cut from a tree in the O. E. Graves orchard in Berrendos, was weighed and tipped the beam at thirty-five pounds. The limb was between 3½ and 4 feet long and its own weight was probably not more than three pounds, leaving full thirty-two pounds for the weight of the fruit.

### TULARE.

**BEARING TWO CROPS.**—Advance: R. H. Jones brought to town from the Goldman place a limb from a peach tree that contained two crops of peaches. He says the fruit for some reason ripened very queerly this year. At an early stage it all seemed to grow about equally, but finally a large portion of it stopped growing and remained green, while the rest of the fruit on the trees grew and ripened. The trees did not bloom but the one time, but after the first ripening was off the small green fruit left on the tree started growing and ripened. While the second growth is not as large as the first it is much sweeter. He says much of the orchard, and particularly the clings, are in that condition this season.

**MONEY IN GRAIN.**—Visalia Delta: Section 24 in the Antelope valley yielded over \$10,000 worth of grain this season. D. K. Zumwalt of Visalia has the renting and last season Mr. Wells had the land. The grain has been sold and the sum of \$10,418.13 was realized. The land was rented by Mr. Zumwalt with the agreement that he receive one-fourth of the crop. His share amounted to \$2604.53.

### YOLO.

**RUNNING ON PEACHES AND TOMATOES.**—Mail, Sept. 4: The run on peaches at the Woodland cannery is practically over, though carloads are expected from Marysville and the Yolo orchard in the next few days, and it is estimated that about eight days more will be devoted to the canning of peaches. After that the work on tomatoes will commence, and about six weeks will be required to can all that is expected. Up to date the run at the cannery has been about 8000 cases of apricots and about 9000 cases of peaches.

### OREGON.

**BIG SALE OF APPLES.**—Jacksonville Times, Sept. 2: Joseph A. Wilson, manager of the Hood River Apple Growers' Union, has consummated a \$20,000 apple sale. The Davidson Fruit Co. of Hood river is the purchaser, and has deposited \$1000 to bind the sale. The price for fancy four-tier Spitzenbergs is \$2 a box; yellow Newtowns, \$1.80, the apples to be delivered at railway at picking time. Before the recent organization of the union buyers were paying \$1.45 a box for Spitzenbergs. This is the largest fruit sale ever made in Hood river.

## Horse Owners! Use

GOMBAULT'S

# Caustic Balsam



A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FERRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## THE HOME CIRCLE.

## The Fly.

A fly,  
To my eye.  
Is a wonderful thing.  
He buzzes about all the day on his wing—  
A gossamer, flibberty, gibberty thing.  
You wouldn't surmise  
A thing of his size  
Had strength for all the tasks that he tries.  
For instance, to-day  
I was reading away  
Of fairies and gnomes and the pranks  
that they play,  
When a fly  
Came by,  
And then he began  
On a horrible plan  
Of worrying,  
Flurrying,  
Scurrying in,  
And flicking the ends of my nose and chin,  
Until I'd  
Like to died  
With wrath and chagrin.  
Now, I'm a big thing—  
The fly he was small.  
He'd flop and he'd fling,  
He'd buzz and he'd sing,  
While I would do nothing at all  
But whack at that fly  
Each time he came by,  
Deep wrath in my eye;  
I never could hit him, however I'd try.  
I whacked for two hours  
With all of my powers;  
And when it was done  
I sat weary  
And teary—  
While he was as fresh as when he had  
begun.

—John Kendrick Bangs.

## A Bluebird's Experience.

Once there was a bluebird with a white spot on his wings, and all the bluebird children called him Snowflake. His coat was bluer than all the other birds' coats, like the sky when June has painted it, and his vest was like the earth, a rich, red brown, while upon each wing lay a pure white feather, as if he had flown through a snowstorm and one beautiful white snowflake had lodged upon each wing.

Papa Bluebird wondered where he got his wings. "There were no such wings in my family," said he.

Mamma Bluebird assured him, proudly, that she had often heard her mother speak of her distinguished ancestry—that way, way back her grandfather was an Albino—a pure white bird, and that accounted for Snowflake's wing marks. "He takes after his forefathers on my side of the house," she concluded; "nothing so very strange about that as I can see!"

The children at Orchard Grove remembered positively his first appearance—the June day when four bluebird babies were brought out from the hole in the apple tree, and marched triumphantly across the lawn, preceded by Papa and Mamma Bluebird. Serene little creatures they were, with the good manners of the family, as gentle and kind and free from fussiness as bluebirds have always been. With what interest the Grove children watched their debut, and how the excitement spread as each child announced separately and with increasing enthusiasm that one of the babies, only one out of the four, had a white spot on each wing.

Not a week passed that summer but the children saw more or less of Snowflake; either helping to complete the quartet snuggled up together on the apple bough or hopping over the lawn hunting his breakfast or supper, quite in the manner of the grown-ups. With November he went with his brothers and sisters, his uncles, cousins and aunts, on a long journey to a land he had often heard about, his papa never tiring of telling how fair it was—fair "Bermuda, Bermuda, Bermuda." When the first blossoms were white upon the trees, and jasmine fragrance filled the air, little Snowflake grew restless. Something was wrong with him; he wanted something, he did not know what, and kept thinking, thinking, until he was reminded by the family that it was quite time to set out upon another journey.

All day they flew, all night, another day, stopping only to feed, and there

they were at home again in the old orchard.

"Little Snowflake is back again," said the Grove children, with little less excitement than attended his first appearance.

How glad he was to get back, and happier still when, after a few days of indecision, the dearest little lady in an azure gown had promised to be his bride. The marriage ceremony was quickly followed by going to housekeeping regularly in a tin can, which the children had placed upon the house jet for that very purpose.

There really seemed at first no place quite good enough for Lady Azure, but after looking over various eligible sites, she decided this was snug and cosy, with the advantage of a fine outlook, a matter of no small importance, when a young family is concerned. Snowflake's anxiety was all removed when his bride announced her entire satisfaction, in thrilling words that left no doubt in his mind as to the future. "My love," she said, "we shall be as snug as a bug in a rug and, what is quite to the point, we need have no fear of cats!"

Snowflake twinkled his wings, he was so pleased, laughing and singing all in one breath, and whispered the sweetest words into her ear that ever a little lady heard.

He went straight to work over the house furnishing, and was half wild with joy when the bride chamber was completed and four lovely blue eggs lay in the soft bed.

Those were happy days, and when another quartette emerged from those tiny spheres his happiness was complete. It was hard work to keep those four gaping mouths supplied with food, but it was a labor of love, you know, and that makes all the difference in the world.

In the autumn they started upon the same journey—Bermudawise—Snowflake and his bride, the children and their young friends with the same relations who went and came before. More than half the distance was covered when they stopped for the night to rest and sleep in a pine grove, for with the evening the air grew chilly, and Snowflake was so tired that he went straight to sleep.

When he awoke he was so cold, oh, so cold and his wings were heavy, so that he could not lift them. He called and called to his friends, but no answer came. By and by when the sun was up he grew warmer and his wings stronger. Then he flew about to find his family. They were all asleep, every one; Lady Azure and the four children, all asleep in the frozen grasses. "Wake up! Wake up!" he cried; "it is time we were going! Wake right up quick, little ones, and follow me! Open your eyes, Lady Azure, and come on!"

But not an eye opened; not an azure wing was lifted.

Then he sang, hovering over Lady Azure the while, "Bermuda, Bermuda, Bermuda," changing the song to "dear, dear, dear;" "love, love, love," a note he was sure that she would hear and answer. Still wondering why they did not speak, "I will go on," he said; "when they wake up they will follow!"

They never followed; the unprecendented frost had wrought its worst.

When he reached the winter home others of his species had already arrived, but none made up the losses; no robes were quite as blue, no breasts as ruddy. The winter was longer than ever before, he thought, and when the first pinky-white buds came upon the trees he spread his wings toward the northland, joining a small company which was setting out on the same quest. Once more he was in the same orchard; the same children were shouting a welcome; the same exclamation "Snowflake has come;" the same house was on the jet—but his own home-coming, how changed! After a few days he heard a low call from the maple grove, and listening with all his ears, he was sure it was the voice of a bluebird.

"I'll go over and see," he said; "perhaps Lady Azure has waked up again and calls me!"

So he flew over the grove, and there was a little lady dressed in soft blue satin precisely like Lady Azure's. In-

deed, she was so true a likeness to the little wife who went to sleep that Snowflake couldn't get her out of his mind for a single minute.

"Have you seen her?" he questioned eagerly, "Have you seen Lady Azure?"

"Who's Lady Azure?" said the stranger; "I never heard of her; my name's Bluet. If you mean a lady in an azure gown," she continued, "why, yes, I've seen her. Was there ever a gown softer or bluer than mine, I wonder," and she lifted her wings to show him how lovely it was.

Snowflake wondered, too, and made up his mind that this must be Azure's own self, after all, waked up after that long sleep.

Then he told her how lonesome he had been, and how he hated to go on that cold morning and leave her there fast asleep,—but she wasn't much interested in his story.

"Come over to the house-jet," he urged, "the old home is just as we left it," but she wouldn't go a single step.

Still wondering at the change, he whispered softly, "Dear, dear, dear; love, love, love," and the effect was marvelous.

She brightened up at once and declared she would go with him, but not to the house-jet.

"Let's go to the orchard then," said he, "I know a house that we can rent, the cosiest one you can imagine; the folks that lived there last year said it was just splendid!"

Over to the orchard they went, to a house in the apple tree that Snowflake had inspected before, standing in the front door and calling every morning just as he called to Lady Azure.

"We can rent it for a song, I guess, that is, if we keep the trees free from worms and insects; the folks always have to do that who rent these houses!"

"It's a big job," said Bluet, doubtfully.

"Never mind if it is," he answered, "I'd work my toes off before I'd go back on the terms of the lease!"

So the house was rented at once, swept and garnished, and the old furniture swept out of doors, for Bluet would have no second-hand furnishings whatever; and new beds, mattresses, etc., were carried in. There was not an inch of the apartment but suited them both perfectly, and while Bluet was sitting on the pretty eggs she laid, Snowflake hunted and hunted everywhere for delicacies to tempt her appetite.

He saved the fattest spiders, the most tempting bugs, feeding them to her as she sat upon the nest, for he was very anxious lest those precious eggs should get a chill in her absence; and every day he sat upon them a while himself while Bluet went out of doors to take the air. When they were no longer eggs, but hungry babies, he worked himself half to death in hunting bugs and worms and spiders, supplying Bluet besides, for the children were too young and delicate to be left alone, of course.

"In a few days now," said Bluet, "you can get some rest. The babies will be big enough to leave, and I will help get the meals;" and Snowflake bent over her to whisper, "Dear, dear love," before he set out on his day's work.

"Wait a minute," said Bluet, just as he was starting, "I'll hop off the nest and give you a peek at these splendid children," and both birds agreed that there never was so fine a group seen in the country before.

"There's only one disappointment," whispered Bluet.

"What can it be?" said her husband. "If only one of them had your beautiful snowflake wings!"

But he assured her that they were too young for such ornament, that he presumed it would come in time; indeed, he was certain it would; and with this assurance Bluet's little heart was satisfied, and he took his leave.

A whole hour went by, and he did not return.

"What can it mean?" thought Bluet, "he never stayed away so long before! No husband was ever so good a provider as he!"

By and by the babies grew so uneasy that she could not quiet them. She was hungry herself, too—high noon,

and not a bite of breakfast yet—and so worried and frightened that she could scarcely lift her wings as she stood in the house door and looked in every direction for Snowflake.

"Snowflake! Snowflake!" she called. "Come home! We want you! The babies are crying," she pleaded, as he did not come, "they have nothing to eat, and I am frightened, and so hungry; don't stay any longer, come home!"

Then she flew about the orchard hunting for food, which she carried home, but she could not taste a morsel herself till she had found Snowflake. When the children's appetites were satisfied she started out to find him.

In the meadow, beside the brook, through the orchard, and over the hill, she went, calling his name. Then it began to grow dark and her little trembling heart went out to the babies in the nest.

Early in the morning she left them to resume her search, over the hill again, the same ground as yesterday.

Then she thought of the rows of maples beside the village street and the cats that were always prowling there, and her heart throbbed louder and louder.

"He would not be so rash as to go too near, and nobody would hurt him; nobody would have the heart to hurt my own Snowflake. He never did a bit of harm in his life, and how he worked always to keep their trees clear of insects! No man would hurt him, I'm sure of that!" and comforting herself with this thought she flew down the street.

Just then she passed a millinery store.

"It's a dangerous place, I've heard; they tell frightful stories about it; dreadful murders and all that," said she, as the door opened and a woman came out and went down the street.

Bluet began to tremble, she did not know why; some instinct perhaps gave her warning; and as she looked she saw—Oh, what do you think it was?—two blue wings upon the woman's hat—two blue wings with a white spot on each of them.

"Nobody else ever had such wings," she moaned, "nobody else but Snowflake!"

Bluet was right. The little bird was dead, but the woman's heart had not felt a vibration.—Helen Hart Woodworth.

## Proving his Courage.

She thought she heard somebody moving downstairs and so she awakened him.

"What is it?" he asked sleepily.

"Burglars, I think," she answered.

Now, he hadn't lost any burglars, and didn't care to find any. Still one must prove his courage in such circumstances if he is to maintain his prestige in the family.

In pajamas and slippers he stole out into the hall and listened at the top of the stairs.

Yes, there surely was some one down there. He put his ear to the speaking tube that communicated with the kitchen, and he could hear them talking. Evidently they had just got through a kitchen window and were about to proceed to the dining-room for the silver.

"I can surprise them," he thought, "but if I do, what will happen to me? Burglars, when cornered, are always desperate but—they avoid trouble when they can."

Happy thought! There was a whistle at the other end of the speaking tube. He put his mouth to the tube and blew. Then he rushed back to his room.

"My trousers, quick!" he cried, "and my revolver!"

"But, George," his wife urged, "there may be more than one."

"There are several," he returned valiantly, "but I'll get them."

"And I heard one of them whistle," she persisted.

"So much the more reason for hurry," he asserted. "He's signalling to the other members of the gang that the coast is clear. If I'm quick I can get them all."

She pleaded with him not to go, but ever lived could deter him—not after he



was determined. No burglar who he had frightened the life out of the afore-said burglar by whistling down a tube. However, he did let his wife detain him until he was reasonably sure that the coast was clear.

Then he went down, while she waited anxiously at the top of the stairs.

"They've gone," he announced disgustedly, "and it's all your fault. If you hadn't hung onto me I'd have got them sure. Why in thunder can't you have a little sense and a little nerve?"

But in the language of the day, "he made good." His wife now considers him about the bravest man that ever lived.

#### Cold Storage of Eggs.

Cold storage of eggs in one of the greatest conveniences of modern times, giving housewives eggs in abundance at a season when there would be otherwise be an egg famine, and enabling the produce merchant to control the market the year round. Before this was done there was no certainty of obtaining fresh eggs except in spring and early summer, and speculators were continually arising to "bull" the market, a process which often met with abject failure. "No sooner was the market cornered than hens all over the country began laying," said an unfortunate speculator. "And there was no possible way of controlling the hens," he added sadly. To-day the prices of eggs are definitely controlled by the cold storage houses. The demand seemed to be always equal to, if not greater than, the supply. It is estimated that every five years the consumption of eggs doubles, and only the success of cold storage keeps down the prices. In cold storage houses eggs may be kept for an indefinite time as fresh as if they were just laid. The secret of success in this matter lies in careful sorting and packing of the eggs in a uniform temperature.

An old picture in the Dresden gallery represents a Dutch housewife "testing eggs," and shows that the method in use to-day was in vogue more than a hundred years ago, except for the substitution of a strong electric light for the ancient oil lamp. The interior of the egg is examined by the glow of light which shines directly through it. If a perfect ball of rosy red is found floating in clear liquid in a clean shell, the egg is fresh. If there is a slight vacuum at one end it is fresh enough for ordinary use, but not quite so fresh as the first one. Evaporation has set in, but for cake making and for many purposes this egg is better than a perfectly fresh one. Finally when the egg has decomposed, the yolk sticks to the shell; it is stale and unfit for use, though it may not be odorous. Eggs which this test shows to be practically fresh laid may not have been in the barnyard for months, while those that have not been properly stored will not bear "candling," though they have been laid only a few weeks.

The cold storage houses begin to store eggs in the month of February, and stop storing after the month of June until cold weather comes again. In the hot, sultry weather of August eggs, like all other perishable products, spoil easily, and are usually unfit for storage purposes by the time they are brought to market.

The first eggs to reach the great packing houses come from the far South. In March the Middle States and those near by send in their eggs for storage. In April or May eggs from the North and the Eastern States reach market in great quantities. Before the end of June there are often a thousand carloads in market to be stored for the dull season "when hens will not lay."

At these packing houses the temperature is kept 30° F. by means of pipes through which brine circulates, exactly as steam does in modern houses. The secret of storing eggs successfully consists in keeping them at only 2° below freezing point, in surroundings of spotless cleanliness, and in sorting those that have begun to be stale from those that are strictly fresh.—New York Tribune.

#### Meat Salads.

**Chicken Salad:** Dress one chicken, put into cold water and set over the fire to cook. After it has cooked a short time, salt and put in a large spoonful of butter. When tender, cool and take out the bones, use all but the gizzard, skin and heart, cut into small pieces, measure and put into an earthen dish. Take some white stalks of celery and cut into fine pieces, but do not chop it, and a little fine cut cabbage, and salt to taste. Mix with a good salad dressing. Serve cold. Equal parts of the chicken and celery can be taken, or celery and cabbage can be used together if liked best. This salad will keep for some time if kept in a cool place.

**Ham Salad:** One pint of either baked or boiled ham can be used. Chop fine with one pint of breadcrumbs, moistened with sweet milk, one teaspoonful of dry mustard, and a little pepper. Put into a saucepan and heat thoroughly. Turn into a small platter and garnish with slices of boiled eggs. Serve hot for lunch.

**Fish Salad:** Cook a white fish or a trout; when done take out the bones, cool, and cut fine. Chop as much celery or cabbage as you have fish. Season with salt and butter, and use any good salad dressing.

**Shrimp Salad:** Take equal quantities of chopped canned shrimp and celery cut in small pieces, add a little chopped sweet parsley and chives, and mix with salad dressing.

**Egg Salad:** One dozen eggs boiled hard, remove the shells and cut in halves, mash the yolks with a little butter and one teaspoonful each of salt, sugar, celery seed and four teaspoonfuls of vinegar, mix all together and fill the whites of the eggs with the mixture and they are ready for the table.

**Lobster Salad:** Boil two lobsters, cool and take out the meat, and cut it in dice. Wash a couple of dozen lettuce leaves and arrange in a salad bowl. Make some mayonnaise and mix the lobster and mayonnaise together, put on the lettuce leaves and garnish with hard-boiled eggs.

**Sweetbread Salad:** Boil sweetbreads in salted water twenty minutes, put into cold milk and let stand fifteen minutes, then cut into small pieces, mix in a bunch of shredded lettuce, and a couple of stalks of celery cut fine and add salad dressing to taste and serve.

**Salad Dressing:** Beat the yolk of one egg for fifteen minutes, add slowly one-half teaspoonful each of mixed mustard and salad oil, one teaspoonful of sugar, one-fourth teaspoonful of salt and six tablespoonfuls of cream. Stir until very smooth, then add two tablespoonfuls of vinegar. This receipt will make only a small quantity. If one wishes more it can be doubled.

**Another Salad Dressing:** The yolks of eight eggs, half a pint of sweet cream. Cook in a double boiler, add half a teaspoonful of mustard, beat the eggs well with egg beater. Stir until cool so that no crust will form on it, and it is ready for use. This dressing will keep for some time in a cool place.—New York Observer.

#### Couches and Nerves.

Couches have saved more minds and nervous systems than all the doctors and medicines put together.

It is the best refuge that the over-worked housekeeper has, did she but know it; and the only fault I have to find with women is that, as a rule, they do not use their couches half enough.

When distracted by the infinite cares of the household and worried over this bill and that a woman should have a place where she can throw herself down and, stretched at ease, allow her troubles to straighten themselves out of their own accord.

By these means hysteria is avoided, beauty is preserved, and the woman's chances for eternal salvation are helped tremendously. — Philadelphia North American.

He who flatters you is your enemy.—Cardan.

#### Domestic Hints.

**ROYAL LEMON SAUCE.**—In a granite saucepan mix half a cup of sugar, a level tablespoonful of cornstarch, a fourth of a cup of seeded raisins, a tablespoonful of shredded citron, and a dozen blanched and chopped almonds. Add gradually one and a quarter cups of boiling water and boil for five minutes, stirring constantly; then stir in a little of the grated rind and the juice of half a lemon.

**BLACKBERRY BRANDY.**—Blackberry brandy is a good thing to keep in the house, and is quite easily made. Stew the berries until they are soft, then strain through a flannel bag. To each quart of juice allow a pound of sugar. Boil for a few minutes and skim carefully. When cold mix with brandy in the proportion of one quart to four of juice. Spices may be added if liked. When the blackberry is used a little more clear brandy may be mixed with it.

**CHILI SAUCE.**—For chili sauce use ripe tomatoes. To each eighteen allow two and one-half cups of vinegar, one cupful of sugar, chopped green peppers enough to make one cupful, three onions chopped fine, two tablespoonfuls of mixed ground spices—cloves, allspice and cinnamon. Boil all together until a rich sauce is formed and the flavors are so well blended that no one is especially distinguished from the rest. Pack in small jars and store in a cool place.

**CHICKEN MOUSSE.**—Remove all the meat from a cold cooked chicken and cook the carcass in a very little water, putting in an onion and some parsley to flavor it. Chop the meat, when freed from skin, and then pound it to a paste, adding about a quarter of its quantity of cold cooked ham. Season with salt, white pepper and a very little mace, and moisten with the stock in which the carcass was boiled. Add then a gill of cream very stiffly whipped. Put a layer of this mixture into a charlotte mould, then a layer of cubes of foie gras, truffles chopped, and cooked fresh mushrooms; then a layer of the chicken mixture, and so on till the mould is full. Set the mould on ice for two or three hours and unmould when serving. Garnish with parsley and slices of cinnamon.

**PRUNE TART.**—Mix one and one-half cups of sugar. With the tips of the fingers work in two-thirds of a cup of butter and make to a stiff dough with the yolks of three eggs, more or less, according to size. Flour well a deep pudding form. Break off small portions of the dough, pat and roll out, then press against the bottom and sides of the pan until it is entirely covered. Brush with white of egg and stand aside to chill while preparing the fruit. Wash and stone some fresh prunes, add sugar to sweeten well and a rounding tablespoonful of flour for each quart of fruit. Fill the pastry about two-thirds full and bake in a moderate oven. When about done beat the yolks of three eggs with three rounding tablespoonfuls of sugar, add a cup of hot cream and six macaroons crumbled fine. Pour over the pudding and bake until it is a delicate brown. Beat the whites of three eggs to a stiff froth, add three rounding tablespoonfuls of sugar and vanilla to flavor. Pile irregularly over the top and bake slowly until firm to the touch.

"Ball throwing I do not advise to any great extent for girls," says Dr. Luther Gulick, physical director of the public schools of New York. "It makes the clavicle prominent and destroys the symmetry of the neck, a fact every girl is likely to regret when she is older and begins to wear evening gowns."

**Tramp:** You has purty easy times—nothin' to do but stand here sellin' lead pencils. Pencil Peddler: Think it easy, do yeh? Don't you know people won't buy pencils of a feller on th' street unless he looks starved an' dejected an' despairin'? "That's easy." "Taint easy to look that way right along w'en y'r rakin' in \$4 a day."

## Moravian Barley.

Grown in the Livermore valley from seed brought to this country from Hungary by the U. S. Agricultural Department.

Hanna or Moravian Chevalier heads out two weeks earlier than the Chevalier usually grown in this State; resists drouth, hot weather and wind better than other varieties. In Germany and Austria it is known as the best brewing barley.

FOR SALE IN QUANTITIES TO SUIT BY  
**August Hagemann,**  
LIVERMORE, CAL.

**GLENN RANCH,**  
Glenn County, :::: California  
**FOR SALE**  
In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Chico, California.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## To Stock and Dairy Men.

We have for sale a ranch of 421 acres, all fenced, on the Tuolumne river, 1 mile from railroad station, 5 miles east of Modesto; one-half the land in irrigation district. It has 300 acres in alfalfa; 40 acres of timber land, bearing probably \$5000 worth of wood; good family orchard, including orange, apple and orange trees; and 5-room house, 2 barns, sheds, shops, windmill house and tank house, all in good condition. Lateral No. 1, Modesto district, runs through the ranch. The ranch will carry 300 head of stock at the present time. Easy terms.

Also, small tracts of size to suit, at from \$20 to \$60 per acre, and on easy terms, in either Turlock or Modesto irrigation districts. Perpetual water right with the land.

ADDRESS, FOR PARTICULARS,

**T. E. B. RICE & SON,**  
Real Estate Dealers,  
MODESTO, CAL.

**Alfalfa Land \$2 per acre. cash.**

50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

**TO PRACTICAL FRUIT MEN.**

A SPLENDID OPPORTUNITY!

100 acres of fruit and 450 acres of grazing land in Butte county. Will lease at nominal rental or employ right man. Address "Owner," this office.

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering,**

Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER HAYLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, September 8, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	81½@81¾	83½@83¾
Thursday.....	83½@83¾	85 @84¾
Friday.....	82½@83½	84½@84¾
Saturday.....	82½@83½	84½@84¾
Monday.....	82½@83½	84½@84¾
Tuesday.....	82½@83½	84½@84¾

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	50½@51½	50½@51½
Thursday.....	52½@53½	52½@53½
Friday.....	52½@53½	52½@53½
Saturday.....	52½@53½	52½@53½
Monday.....	52½@53½	52½@53½
Tuesday.....	52½@53½	52½@53½

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1.49 @1.48½	—
Friday.....	1.48 @1.48½	—
Saturday.....	—	—
Monday.....	—	—
Tuesday.....	1.48 @—	—
Wednesday.....	—	—

\* Holiday.

### WHEAT.

The current week has been badly broken into by holiday observances. The grain exchanges stood adjourned on Saturday last, as they did also on Monday and Wednesday of this week. As can be readily seen there has been little opportunity for business. A firm tone continues to prevail in the wheat market, with late European advices decidedly more bullish than at any previous date this season. Heavy rains are reported to have very seriously damaged the grain crops in England and Scotland, as also in France, Germany, Holland and Belgium. All of these countries will have to import more wheat than was generally estimated. The bakers of London have issued a notice that the price of bread will be raised, owing to the upward movement in wheat values. The local market, however, is still considerably above the parity of European values, and although ocean freight rates were never before so low, there is not much wheat going outward. The same slow movement is reported in Oregon and Washington. A Tacoma dispatch states there will be no wheat cleared from there this month, and that exporters claim to be selling wheat to millers. The annual estimate of the Oregonian of the wheat crop of Oregon, Washington and Idaho places the total yield in the three States for 1903 at 34,750,000 bushels, divided as follows: Washington, 19,100,000; Oregon, 11,400,000; Idaho, 4,250,000. The crop is nearly 20% below that of last year. Secretary Wilson says the macaroni wheat yield in the United States this year, according to the commonly accepted estimates, is 10,000,000 bushels, against 2,000,000 bushels a year ago, and he predicts that next year's crop will be 20,000,000 bushels. In the local market, wheat suitable for macaroni and having a heavy percentage of gluten, almost invariably commands a premium over the prices paid for what is termed choice milling stock.

California Milling.....	1.55 @1.60
Cal. No. 1 shipping, alongside.....	1.45 @1.47½
Oregon Club.....	1.42½ @1.45
Washington Blue Stem.....	—
Washington Club.....	—
Off qualities wheat.....	—

### PRICES OF FUTURES.

December, 1903, delivery, \$1.49@1.48.  
May, 1904, delivery, \$1.48½ bid.  
Tuesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.48 @—; May, 1904, \$1.48½ bid.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	6s4½d@6s5d	—s-d@—s-d
Freight rates.....	23@23½s	12½@15½s
Local market.....	\$1.12½@1.15	\$1.45@1.47½

### FLOUR.

Although quotable values show no change, the market is decidedly firm at current rates, with prospects that any change in the near future are more apt to be stiffer than to easier prices. Shipments to Asia have been lately decidedly heavy, the last steamer taking 35,965 barrels. To other countries, however, recent exports have not been of very large proportions. Arrivals are comparatively light from all sources and spot stocks are of small compass.

Superfine, lower grades.....	83.00@83.25
Superfine, good to choice.....	83.25@83.50
Country grades, extras.....	4.00@4.25

Choice and extra choice.....	4.25@4.50
Fancy brands, jobbing.....	4.50@4.75
Oregon, Bakers' extra.....	3.50@4.00
Washington, Bakers' extra.....	3.50@4.15

### BARLEY.

Demand continues active for this cereal, especially on export account, and market for shipping grades is strong at prevailing figures. Over 50,000 tons of barley have been cleared from this port for the current season up to date and nearly all for Europe. Ships now in port and under charter for this cereal as main or full cargo will require about 75,000 tons more. Much of this barley yet to go forward has been already secured, but more is wanted. There is little or no probability of there being a surplus of offerings for some time to come. Market is slightly higher than last quoted, with appreciation most pronounced on feed descriptions of the higher grades which are being taken to a considerable extent for shipment.

Feed, No. 1 to choice.....	\$1.13½@1.15
Feed, fair to good.....	1.10 @1.12½
Brewing, No. 1 to choice.....	1.20 @1.22½
Chevalier, No. 1 to choice.....	1.37½@1.47½
Chevalier, common to fair.....	1.12½@1.32½

### OATS.

There have been free arrivals lately of this cereal, but a large proportion of the receipts represented prior arrival purchases. Offerings were not particularly heavy, either for immediate or forward delivery, and it was the exception where any undue selling pressure was exerted. Quotable values remain about as last noted, but in not a few instances holders are contending for an advance on these figures.

White Oats, fancy feed.....	1.30 @1.32½
White, good to choice.....	1.25 @1.30
White, poor to fair.....	1.20 @1.22½
Gray, common to choice.....	—
Milling.....	1.25 @1.30
Surprise, good to choice.....	—
Black Russian feed.....	1.15 @1.25
Black for seed.....	1.35 @1.45
Red, fair to choice.....	1.15 @1.35

### CORN.

Most of the Corn arriving is Eastern product, which is coming forward in bulk and is sacked here when so required by purchasers. Mixed Eastern is being landed in this market at about \$1.40 unsacked in carload lots, while for straight White or Yellow about \$1 per ton more is charged. Small Yellow is so scarce as to hardly admit of quotations.

Large White, good to choice.....	1.55 @1.60
Large Yellow.....	1.55 @1.60
Small Yellow.....	1.70 @1.80
Eastern, in bulk.....	1.40 @1.45

### RYE.

Spot stocks are of small compass, and there are no great quantities offering to arrive. Current values are being well maintained.

Good to choice, new.....	1.20 @1.25
--------------------------	------------

### BUCKWHEAT.

The same inactivity previously noted is prevailing, due to lack of offerings.

Good to choice.....	2.00 @2.50
---------------------	------------

### BEANS.

There has been more inquiry for Beans than for some time past, largely on Eastern account. The crop East promises to be no better, if as good as last year, and indications are that stocks in this State will be drawn upon heavily the current season to make up for the shortages East. Buyers are endeavoring to get values down to lower levels, but are meeting with poor headway. In fact, the tendency on lowest priced Beans is to higher figures. Arrivals of new up to date have not been heavy, and have been principally Large Whites, Black-eyes and Pinks.

Pea, fair to good, 100 lbs.....	3.25 @3.40
Small White, good to choice.....	2.75 @3.00
Large White.....	2.40 @2.60
Pinks.....	2.90 @3.00
Bayos, good to choice.....	3.40 @3.50
Reds.....	2.75 @2.90
Red Kidney.....	3.25 @3.40
Black-eye Beans.....	2.50 @2.75
Garbanzos, large.....	2.00 @2.25
Garbanzos, small.....	1.25 @1.50

### DRIED PEAS.

Not many coming forward, nor is the demand brisk. Niles are in highest supply and incline least in favor of buyers. Free purchases would be difficult to effect at full current quotations.

Green Peas, California.....	1.65 @1.75
Niles Peas.....	2.25 @—

### HOPS.

Market is showing decided firmness, with few hops offering in any of the wholesale centers. Growers in this State who are not delivering on contracts are mostly awaiting developments. That Europe will be a heavy buyer of American hops, owing to serious damage to her own crop, seems now well assured. New York advices by mail report as follows: "The firmness of the past two weeks shows increasing force, and we are compelled to mark prices of desirable grades a further notch upward. Remaining stocks on the local market are light and well under control of strong holders. Choice grades are

now held at 24@24½; in fact, few could be obtained at those figures, and brewers and dealers in want of a few cannot afford to be over particular regarding quality, and most anything rated from good upward brings close to top quotations. Reports from the growing crop in this State indicate considerable vermin in Madison Co., which, if weather does not improve materially, may become dangerous, though at the moment is not doing much harm. Advices from other counties are more favorable with the growing crop in good condition. English advices report unfavorable weather conditions, preventing work in the yards and that mold is doing considerable damage to the crops. Reports from Germany show little if any change in the situation."

California, good to choice, 1903 crop.....22½@23½

### WOOL.

The portion of San Francisco known as wool town has presented a holiday appearance most of the week, and there is nothing of noteworthy interest to report beyond what has been previously stated in these columns. Wool town is at present little more than a sorting, scouring and packing point, operators doing their buying almost wholly in the interior. The general tone of the market is without material change, being in the main firm, with prevailing values well maintained on all desirable qualities.

### SPRING.

Humboldt and Mendocino.....	18 @20
Northern, free.....	16½@17½
Northern, defective.....	14 @16

### FALL.

Mountain free.....	10 @13
San Joaquin Plains.....	8 @11
Nevada.....	12 @16

### HAY.

During the few days devoted to business trade was fairly active, and at much the same range of values as current the preceding week. The firmness of the market continues to be most pronounced on high grade wheat hay, such being offered quite sparingly. The medium and lower grades continued in more than ample receipt for immediate needs, but prices for these descriptions are expected to rule firmer in the near future.

Wheat, good to choice.....	10.00 @14.50
Wheat and Oat.....	10.00 @13.00
Oat, fair to choice.....	8.50 @12.50
Barley.....	8.00 @11.50
Clover.....	9.00 @10.00
Alfalfa.....	8.50 @11.50
Stock Hay.....	8.00 @9.00
Compressed.....	11.00 @14.50
Straw, bale.....	45 @60

### MILLSTUFFS.

Market for Bran and Middlings has been ruling quiet and rather easy in tone, although in the matter of quotable values there have been no special changes. Market for Rolled Barley was decidedly firm. Stocks of Milled Corn are on the increase and values for same barely steady.

Bran, ½ ton.....	23.50 @24.50
Middlings.....	26.00 @27.50
Shorts, Oregon.....	22.50 @24.00
Barley, Rolled.....	24.00 @25.00
Cornmeal.....	33.00 @34.00
Cracked Corn.....	33.50 @34.50

### SEEDS.

Inquiries are coming forward regarding prices for new crop Mustard, both from Eastern buyers and California producers, the latter wanting to know what figures are being bid, and the former trying to learn the figures asked. As neither buyers nor sellers have yet named prices for new, values for same remain undetermined. Quotations below are based on latest reported transactions in last year's product. Canary is in light stock; some is due from Sacramento river section, but at last accounts was not harvested.

Alfalfa, Utah.....	Per ctt. — @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2.25 @2.50
Mustard, Yellow.....	2.75 @3.00
Mustard, Trieste.....	3.00 @3.25
Canary.....	Per lb. 5 @6
Rape.....	13 @24
Hemp.....	3½ @4

### HONEY.

Market is showing a generally firm tone, with demand fair and no heavy offerings of any description. Extracted is receiving perhaps a little more attention than Comb for the time being, but the latter is not obtainable in sufficiently large lots of uniform grade to warrant the attention of wholesale operators.

Extracted, White Liquid.....	5½ @6
Extracted, Light Amber.....	5 @5½
Extracted, Amber.....	4½ @5
Extracted, Dark Amber.....	4 @4½
White Comb, 1-lb frames.....	13 @14
Amber Comb.....	9 @11
Dark Comb.....	— @ —

### BEESWAX.

Business doing is of limited proportions, owing to absence of large supplies. Greater quantities than are coming forward could be readily disposed of at full values. Shipments are being made outward as fast as accumulations will permit of.

Good to choice, light ½ lb.....	27½ @29
Dark.....	25 @26

### LIVE STOCK AND MEATS.

Beef was not in heavy receipt, but demand was by no means brisk and offerings proved ample for the immediate demand, prices remaining steady. There is not much Veal arriving from any quarter, and for desirable stock the market is decidedly firm but not notably higher. Mutton was in ample supply for current needs, prices remaining barely steady. Lamb of desirable quality was in light receipt, and while in fair request, failed to command any appreciable advance on last quoted rates. Hog market ruled rather firm for medium and large sizes, but for small inclined against sellers, small Hogs being most in evidence and in lightest request.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net ½ lb.....	6½ @7
Beef, 2nd quality.....	6 @—
Beef, 3rd quality.....	4 @5
Mutton—ewes, 7½—c; wethers.....	8 @—
Hogs, hard grain, 150 to 250 lbs.....	5½ @6
Hogs, large hard, over 250 lbs.....	5½ @6
Hogs, small, fat.....	5½ @5½
Veal, small, ½ lb.....	9 @10
Lamb, Spring, ½ lb.....	9 @10

### HIDES, SKINS AND TALLOW.

There have been no changes in quotable values since last report, but market has ruled quiet, with a little easier tone, both East and here.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	@10	@9
Medium Steers, 48 to 56 lbs.....	@9	@8
Light Steers, under 48 lbs.....	8 @—	7 @—
Heavy Cow Hides, over 50 lbs.....	8 @—	7 @—
Light Cow Hides, under 50 lbs.....	8 @—	7 @—
Stags.....	@6	@5
Wet Salted Kip.....	@9	@8
Wet Salted Veal.....	@9½	@8½
Wet Salted Calf.....	@10½	@9½
Dry Hides.....	@16	@15
Dry Kip and Veal, 11 to 16 lbs.....	@13½	@12½
Dry Calf, under 4 lbs.....	@19	@17
Pelts, long wool, ½ skin.....	1.00 @1.50	
Pelts, medium, ½ skin.....	.70 @.90	
Pelts, short wool, ½ skin.....	.40 @.65	
Horse Hides, salted, large prime, each.....	15 @30	
Horse Hides, salted, medium.....	2 @5	
Horse Hides, salted, small.....	2 @5	
Horse Hides, dry, large.....	1.75	
Horse Hides, dry, medium.....	1.50	
Horse Hides, dry, small.....	1.25	
Tallow, good quality.....	4½ @5	
Tallow, poorer grades.....	3½ @4	

### BAGS AND BAGGING.

Aside from a moderate trade in Fruit Sacks at quotably unchanged figures, there is no business of consequence in this department. Speculative operators have abandoned the Grain Bag market, after suffering some very heavy losses the past season.

Fruit Sacks, cotton.....	6½ @6½
Fruit Sacks, jute, as to quality.....	5½ @7
Grain Bags, Calcutta, 22x36, spot.....	5 @5½
Grain Bags, Calcutta, buyer June-July.....	@—
Grain Bags, San Quentin, in lots of 2,000, ½ lb.....	5.55 @—
Wool Sacks, 4-lb.....	32 @—
Wool Sacks, 3½-lb.....	30 @—

### POULTRY.

Several carloads of Eastern poultry came forward the past week, but there were no heavy receipts of California product. Demand was not very brisk and stocks of most kinds proved more than ample. The inquiry was principally for choice Broilers and large fat Hens, these selling to best advantage. Broilers in first-class condition brought nearly as high figures as Fryers. For a few Young Turkeys, full grown and fat, comparatively good prices were realized.

Turkeys, young, ½ lb.....	20 @22
Turkeys, old, ½ lb.....	15 @16
Hens, California, ½ dozen.....	4.50 @6.00
Roosters, old.....	4.50 @5.00
Roosters, young (full-grown).....	4.50 @6.00
Fryers.....	4.50 @5.00
Broilers, large.....	3.00 @3.50
Broilers, small to medium.....	2.50 @3.00
Ducks, old, ½ dozen.....	3.50 @4.50
Ducks, young, ½ dozen.....	4.00 @5.00
Geese, ½ pair.....	1.50 @—
Goslings, ½ pair.....	1.50 @2.00
Pigeons, old, ½ dozen.....	1.50 @—
Pigeons, young.....	1.50 @1.75

### BUTTER.

With the week full of holidays, the butter market has been somewhat irregular, particularly as regards the ordinary run of offerings of fresh product. Wholesale dealers endeavored to keep their floors cleaned, even at the expense of making concessions, while retailers in most instances did not care to purchase ahead to any noteworthy extent. The market for fresh, aside from a few favorite marks, was devoid of firmness. Many consumers are now running on cold storage butter, of which there are liberal quantities here, both Eastern and home product. It is stated that process butter from the East is being transferred into California packages, so as to pass as creamery and dairy stock.

Creamery, extras, ½ lb.....	29 @30
Creamery, firsts.....	28 @29



Dairy, select.....	27 @28
Dairy, firsts.....	26 @27
Dairy, seconds.....	— @—
Firkin, good to choice.....	— @—
Mixed Store.....	18 @19
Pickled Roll.....	— @—

## CHEESE.

Market continues to be liberally stocked with flats and is lacking in firmness, except for mild new of high grade, which description is not plentiful and in a limited way is commanding tolerably stiff figures. Previously quoted values on Young Americas are being fairly well maintained, but demand is not active at full current rates. Market for Eastern cheese is steady, offerings being only moderate.

California, fancy flat, new.....	13 @—
California, good to choice.....	12 @12½
California, "Young Americas".....	13½ @14½
Eastern.....	13½ @15½

## EGGS.

Prices for strictly select fresh have been further advanced, sales having been made up to 37c., but this was hardly a quotable figure. There are a few buyers, however, who would not hesitate to pay still higher prices for eggs to their suit. But these buyers are very exacting, not only as to freshness, cleanliness, color and size, but also as to the quality of the egg. To satisfy this trade the chickens must be supplied with the best of food. Cold storage eggs are moving freely and many retailers are passing them off for fresh.

California, select, large, white and fresh.....	35 @36
California, select, irregular color & size.....	27½ @32½
California, good to choice store.....	20 @23
Eastern.....	19 @24

## VEGETABLES.

Market for most kinds continued on much the same lines as preceding week, changes in quotable values not being numerous or very pronounced. Tomatoes were not in large receipt and where in prime to choice condition met with a rather firm market, canners being eager to secure this vegetable and preventing accumulations. Green Corn of high grade arrived sparingly and brought good average prices. Onion market favored buyers, offerings being liberal and the demand slow.

Beans, Lima, sack.....	75 @ 1 00
Beans, String, sack.....	2 @ 3
Cabbage, choice garden, 100 lbs.....	75 @ 85
Corn, Green, sack.....	1 00 @ 1 75
Cucumbers, sack.....	75 @ 1 50
Egg Plant, sack.....	35 @ 60
Garlic, sack.....	40 @ 65
Onions, Yellow Danver, cts.....	2 @ 3
Okra, Green, small box.....	50 @ 65
Peas, Sweet Garden, lb.....	2½ @ 3
Peppers, Green Chile, box.....	25 @ 40
Peppers, Bell, box.....	30 @ 50
Summer Squash, large box.....	35 @ 50
Tomatoes, Bay, large box.....	40 @ 75

## POTATOES.

Inquiries for Potatoes have been mainly on local account. Although receipts could not be termed heavy, they proved more than sufficient for the limited requirements. Some extra choice Burbanks brought comparatively good prices, but the market as a whole was not firm. Sweets were in fair supply and market inclined in favor of consumers.

Sacramento River Burbanks.....	50 @ 90
Salinas Burbanks, cental.....	1 25 @ 1 65
Early Rose.....	70 @ 85
Sweets.....	1 50 @ 2 00

## The Fruit Market.

## FRESH FRUITS.

There has been no surfeit of strictly choice deciduous fruit of any variety the current week. While there were no radical changes in quotable values, the market for desirable qualities was firm. Canners were on the lookout for Peaches, Pears and Plums. For some offerings of superior quality an advance on top quotations was realized. Bartlett Pears now arriving are mostly from Oregon. Apples of common quality were plentiful and moved slowly at low figures, only choice and select 4-tier stock meeting with any special attention from either the shipping or local trade. Table Grapes were in fair receipt and the general tendency was to easier figures. Fancy stock was rather firmly held, such as choice Royal Isabellas. Wine Grapes were in very light receipt, prices remaining quotably as last noted. Berries of most kinds in season were in slim supply, but values showed no appreciable improvement. Cantaloupes were in light stock and higher. Watermelons and Nutmeg Melons were plentiful.

Apples, fancy, 4-tier box.....	1 00 @ 90
Apples, good to choice, 50-box.....	85 @ 90
Apples, common to fair, 50-box.....	30 @ 40
Blackberries, chest.....	2 50 @ 4 00
Cantaloupes, small box.....	1 00 @ 1 50
Crabapples, small box.....	30 @ 60
Figs, Black, box.....	60 @ 1 00
Figs, White, box.....	40 @ 75
Grapes, crate.....	50 @ 60
Grapes, small box.....	30 @ 60
Grapes, large open box.....	50 @ 1 00
Grapes, Zinfandel, ton.....	24 00 @ 25 00
Nutmeg Melons, box.....	35 @ 60
Peaches, box.....	40 @ 75
Peaches, good to choice cing, ton.....	30 00 @ 25 00
Peaches, good to choice freestone, ton.....	20 00 @ 25 00
Pears, Bartlett, box.....	90 @ 1 25

Pears, other varieties, box.....	40 @ 75
Pears, No. 1 Bartlett, ton.....	30 00 @ 35 00
Plums, good to choice, box.....	30 @ 65
Plums, Large Green, ton.....	25 00 @ 30 00
Raspberries, chest.....	5 00 @ 8 00
Strawberries, Melinda, chest.....	2 50 @ 4 00
Watermelons, 100.....	8 00 @ 20 00
Whortleberries, lb.....	6 @ 8

## DRIED FRUITS.

There is considerable doing in the market for cured and evaporated fruits, Peaches, perhaps, receiving more attention for the time being than any other variety. Values for Peaches are being maintained at about same range last quoted, except the most common qualities, which are ruling a little easier, the most active competition among buyers being confined to the best fruit. Pears are not lacking for attention, but offerings are light, particularly of choice to select stock, the kind which is most wanted. Plums do not make much of a showing and are likely to be in light supply throughout the season. There is a good demand for light colored Plums of desirable size and weight and market for this sort is firm at the quotations. Apples are selling, but market is slightly easier in consequence of lower prices East. Apricots are ruling steady and no evidences of any heavy quantities now in first hands. Not much doing in new Prunes, owing to asking prices being above the views of buyers. Old Prunes are nearly cleaned up. Heavy quantities have been forwarded to Europe in the past few weeks. Last Saturday's steamer took 82,600 pounds for Germany.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4½ @ 5
Apples, extra choice to fancy, 50-lb box.....	5½ @ 6
Apricots, Moorpark.....	8 @ 11
Apricots, Royal, good to choice, lb.....	7 @ 8
Apricots, Royal, fancy.....	8½ @ 9
Figs, 10-lb box, 1-lb cartons.....	60 @ 75
Nectarines, lb.....	3½ @ 4½
Peaches, unpeeled, fair to good.....	4 @ 4½
Peaches, unpeeled, choice.....	5 @ 5½
Peaches, unpeeled, fancy.....	6 @ 6½
Peaches, unpeeled, extra fancy.....	7½ @ 8½
Pears, halves, fancy.....	7½ @ 8½
Pears, halves, choice.....	6 @ 7
Pears, halves, fair to good.....	5 @ 6
Plums, Black, pitted.....	4½ @ 5
Plums, Red and Yellow.....	6 @ 7
Prunes, Silver, good to fancy.....	6 @ 7
Prunes, in bags, 4 sizes, 2½ @ 3; 40-50s, 4½ @ 5; 60-70s, 3¼ @ 3½; 70-80s, 3 @ 3¼; 80-90s, 2½ @ 2¾; 90-100s, 2 @ 2¼; small, — @ — c.	

## COMMON SUN-DRIED.

Apples, sliced.....	3¼ @ 3½
Apples, quartered.....	3½ @ 3¾
Figs, White, in bulk.....	— @ —
Figs, Black, in sacks, lb.....	2½ @ 3¼
Plums, unpitted, lb.....	— @ —

## RAISINS.

The prices fixed by the Association for new crop Muscatels, 6½c, 6¼c and 7c for 2, 3 and 4 crown at Fresno, and ½c less at Woodland, caused a sharp demand for old stock, the market being now practically bare and numerous orders unfilled.

## CITRUS FRUITS.

Very little doing in Oranges. Late Valencias are in moderate supply and are offering at unchanged figures. Lemons have been in good request, and market was moderately firm without being very much higher, stocks proving more than ample for the demand. Limes were in light supply and quite firmly held.

Oranges, Valencias, box.....	1 50 @ 3 00
Lemons, California, select, box.....	2 75 @ 3 00
Lemons, California, good to choice.....	2 00 @ 2 50
Lemons, California, fair to good.....	1 00 @ 2 00
Grape Fruit, box.....	1 25 @ 2 00
Limes, Mexican, box.....	5 50 @ 6 00

## NUTS.

The Almond market is showing healthy condition, and not many offering from either first or second hands. The entire Davisville output, about twenty-five carloads, has been disposed of by the wholesale distributors. Values for new crop Walnuts have not yet been established.

California Almonds, shelled.....	15 @ 18
California Almonds, paper shell.....	9 @ 11
California Almonds, soft shell.....	7 @ 8
California Almonds, hard shell.....	5 @ 6
Peanuts, fair to prime.....	4½ @ 5¼
Peanuts, Eastern, hand-picked.....	5¼ @ 6¼

## WINE.

Not much doing in the way of transfers of round lots of wine from first hands. Quotable values for dry wines of last year's vintage are nominally 15@18c per gallon, but top figure is more in accord with asking prices than with the views of wholesale buyers. The steamer Peru, sailing on the 5th inst., carried 88,266 gallons and 30 cases, the major portion, 78,260 gallons, being for New York. Receipts last week at San Francisco were 354,400 gallons, as against 191,275 gallons preceding week. The Wholesale Dealer's Association is naming decidedly low prices for wine grapes, as compared with last year. For Sonoma Valley product the Association is offering \$15 per ton, and it is believed they will not bid over \$17 for choice Napa and Northern.

In the sweet wine districts low prices for grapes are also named. In Fresno and Tulare counties the California Wine Association announces the price for second-crop Muscats at \$8 a ton for 24% of sugar. For black wine grapes, \$12 per ton; for

white gine grapes, \$10. The payments are to be made half on delivery and half on June 15, 1904.

A Stockton dispatch says George West & Son announce the following prices which they will pay this year for grapes: Ordinary varieties of wine grapes, \$13.50 per ton; Mission grapes, \$12 per ton; Black Prince grapes, \$11 per ton; Tokay grapes, \$8 per ton. For a few varieties higher prices will be paid. Terms of pay are one-third cash, balance in two deferred payments. They say there is an over production of wine grapes, and point out lower prices as inevitable if wild planting continues. Figures are given showing there are 32,615 acres of non-bearing vines in the San Joaquin valley and 129,950 acres of bearing vines. The production of wine in 1902 was 20,000,000 gallons, or twice the requirements of a year's business, they say, and the present crop is another large one.

A dispatch from Los Angeles says: Figures compiled from records kept by the local internal revenue officer show that the sweet wine output for southern California for the season of 1903 will exceed 1,300,000 gallons. The output of brandy is estimated at 40,000 gallons, tax paid, and 250,000 gallons free tax for fortifying purposes. The grape crop is estimated to be fully 60% heavier this season than it was in 1902. Prices of grapes range from \$10 to \$15 per ton.

## Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ½ sks.....	133,588	1,132,952
Wheat, cts.....	33,073	386,124
Barley, cts.....	273,993	1,361,879
Oats, cts.....	87,845	277,857
Corn, cts.....	5,987	22,925
Rye, cts.....	1,300	13,776
Beans, sks.....	5,082	22,613
Potatoes, sks.....	30,559	229,812
Onions, sks.....	4,092	31,982
Hay, tons.....	6,435	50,825
Wool, bales.....	1,001	11,589
Hops, bales.....	614	1,935

## EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ½ sks.....	179,972	781,214
Wheat, cts.....	15,169	125,813
Barley, cts.....	250,307	922,365
Oats, cts.....	668	6,330
Corn, cts.....	509	3,438
Beans, sks.....	5,27	4,031
Hay, bales.....	6,556	35,686
Wool, lbs.....	266,779	1,290,659
Hops, lbs.....	1,966	63,904
Honey, cases.....	111	183
Potatoes, pkgs.....	1,464	16,002

## MALTHOID

The best low priced roofing

## Malthoid Roofing.

Fire resisting. Will thoroughly protect all buildings covered with it. A better roofing for less cost than any other roofing made. Quickly laid and lasts for years.

Send for booklet.

## The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



## THE RAISIN INDUSTRY.

A Practical Treatise on Raisin Grapes Their History, Culture and Curing.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hilgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers. Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

PACIFIC RURAL PRESS,

330 Market Street,

San Francisco, Cal.

**Free Books for Farmers**

These books are compiled from the publications of the various Agricultural Experiment Stations, and are of great value to all practical farmers.

We mail them free to all farmers who apply for them.

GERMAN KALI WORKS,  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

**PATENTS**

OBTAINED IN ALL CIVILIZED COUNTRIES.

EXPENSE SAVED INVENTORS BY PRELIMINARY SEARCHES.

COMMUNICATIONS CONFIDENTIAL.

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports since 1793, with full copies of U. S. Patents since 1872. As a result we are able to give reliable advice as to the patentability of an article, frequently saving the inventor the cost of an application. Our Washington branch tends exclusively to our business before the Patent Office. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, including filing of Caveats, Trade-Marks, Copyrights, Labels; prepare Assignments, Licenses and Agreements; give Opinions on Patentability and Infringements, etc. Circulars free on application.

DEWEY, STRONG & CO.,

(ESTABLISHED 1860.)

PATENT AGENTS,

330 Market Street, San Francisco, Cal.  
and 918 F Street, Washington, D. C.

## Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH.  
Price, \$2 Postpaid.

PACIFIC RURAL PRESS,  
330 MARKET ST., SAN FRANCISCO.

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations, cloth. Price, \$1 postpaid.


PACIFIC RURAL PRESS.

330 Market St.,

San Francisco Cal.



## Run By Hand or Power. Take Your Choice.



When you  
**Buy a  
Tubular**  
you know you  
have a separa-  
tor that thous-  
ands and  
thousands of  
dairymen have  
pronounced  
to be the best  
in the world. They are not like other separa-  
tors; they are more convenient, more durable,  
more simple, safe and efficient. If you want us  
to show you this difference write for catalog 131.

**The Sharples Co.,** P. M. Sharples,  
Chicago, Ill. West Chester, Pa.

## FRUIT MARKETING.

### German Fruit Imports From the United States.

By CONSUL-GENERAL FRANK H. MASON at Berlin, Germany.

Another branch of American export trade to Germany which, despite all restrictive regulations in this country, begins to show the permanent effect of intelligent, well-directed effort is the traffic in fresh apples and the various dried fruits which are now produced so abundantly in the United States.

The first important movement of fresh apples from the United States to Germany occurred during the memorable season of 1896-97, when, stimulated by an enormous crop in the United States and a practical failure of that fruit in northern Europe, certain exporters, following the suggestion of consular reports, sent over whole cargoes, which for a time completely filled the principal city markets in Germany and gave the public in this country an opportunity to appreciate the superior quality of American apples, which were not only the best, but the cheapest of fresh fruit in the market of that year.

But the apples had been gathered and packed for the American trade, and had not been specially selected and put up for export. Large quantities were shipped abroad in bulk in the holds of vessels and had to be rehandled as loose cargo on arrival; as a consequence many were lost through decay, and importers who made large profits on early consignments lost on the later ones.

The following year brought a short apple crop in the United States and the European export declined to comparatively trifling figures. Then the trade was taken up more intelligently; apples of preferred varieties were carefully gathered, selected and packed for the British and Continental European trade, with the result that in 1900 the total export of fresh apples to Germany reached 1760 tons. This increased in 1901 to 1972 tons, and then in the following year, notwithstanding a fair average fruit crop in Germany, the shipments of American apples jumped to 5835 metric tons. This branch of trade was thus not only trebled in a single year, but the American apple made its way into more general use than ever before and laid the foundation of a large and permanent future demand.

Meanwhile, the dried and preserved fruits—apples, apricots, peaches, pears, prunes and cherries—have grown steadily in favor with each succeeding year until the import may now be almost said to be limited only by the surplus supply which American packers have to spare. Here, too, mistakes were made. Inferior products were dumped into boxes, a layer of selected pieces placed at the top and bottom, and the middle filled with low-grade material that disappointed retailers and consumers and for a time threatened to imperil the trade. Then fruit growers' associations and the better class of exporters took up the matter and reformed and improved the methods of curing, packing and grading, so that a given mark or brand should have a

definite meaning as to quality and value, with the result that in 1900 the imports to Germany of American dried fruits reached the important total of 23,258 tons. Then came the comparatively short crop and high prices of 1901, under which the exports to Germany dropped to 17,118 tons, rose to 21,645 tons in 1902, and during the first six months of 1903 have broken all records and reached the unprecedented total of 22,724 tons, against 9599 tons during the same period of the preceding year.

So popular and widely appreciated have American dried fruits become in Germany that they may be said to now control the markets here by virtue of their superior flavor and quality, as well as by their cheapness, which brings them within the reach of a large class of people of limited means to whom preserved fruits had been until recent years a forbidden luxury. As an experienced dealer recently said in discussing that phase of the subject:

"It doesn't make so much difference now whether we have good crops of apples, apricots, plums, etc., in Europe or not. The American dried fruits fix the standard, both as to quality and price, and they will sell here to the extent that the American consumers can spare for export, no matter how great or small may be the home supply of native fruits. Your people have the sunshine, the soil, and the improved varieties, with which our growers are unable to compete."

Such is, substantially, the existing situation. Provided American packers prepare their fruits properly for export, avoiding the excessive use of sulphur and recourse to salicylates and other doubtful antiseptics—which are certain to be detected by the watchful German inspectors and sanitary police—they will find here a ready and constant market for any probable surplus that our country may supply for many years to come.

Berlin, August 1.

### Advice From Washington on Boxing Apples.

They are working vigorously for success in shipping apples from eastern Washington to distant markets and are reaching good results. Frank A. English, a local grower, gives the Orange Judd Farmer the following notes from their experience: Some apples pack better in one size and some better in another, so we adopted for the Northwest Fruit Growers' Association two sizes. The "special" is mostly used for foreign trade and for Yellow Newtown Pippin, Spitzenberg and Jonathan. The inside measurements are 11 inches wide, 10 inches high and 20½ inches long. We pack apples in four tiers in this box, wrap them in clean white paper and paper inside of box with two big sheets, and for Europe put a cardboard

between layers and top and bottom. These apples bring in Europe enough to net to the grower here from \$1.50 to \$2.50 per box. For interstate trade we use the "standard" box, which is 11½ inches wide, 11 inches high and 18½ inches long inside. We pack four or five tiers in this box of varieties coarser and larger than the stock mentioned before. These are papered with two sheets inside the box and the fruit is seldom wrapped, unless requested.

Nothing but a strictly sound apple of the proper size should go in the box. They must be the same in the center as on the outside, no worms nor scab, and fit tightly with a bulge in the center, so as to lay solid. When nailed on, the lid must be under a specially constructed nailing process. Pack blossom ends up on top and bottom.

Be sure and adopt uniform apple boxes. Why not adopt in this country our two sizes? They will fit all cases and all apples, and prevent confusion in the trade. If you grow apples by the car and pack them yourself, have the brand of the farm or your name, post-office and State on the box branded in with copper dye. If you put up decent stock, as you should, you will receive the reward of your own merit. It is the best advertisement. Be sure about what goes in the box. A man that is honest with the barrel will be honest with the box, but he must be honest with the box, even if he was a little on the "smart" order with the barrel.

## The Best Horse



is liable to "go lame" at any time. Curbs, Splints, Spavins and other forms of Lameness yield readily and are cured permanently by

### Tuttle's Elixir

Used and Endorsed by Adams Express Company. Used Internally it is infallible for Colic, Distemper, Founder, Pneumonia, etc.

### Tuttle's American Condition Powders

A specific for impure blood and all diseases arising therefrom. TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.

Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass.

487 O'Farrell St., San Francisco, Cal. Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes. WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY, Station "K," San Francisco.

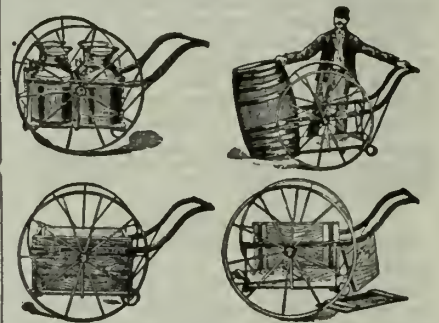
OUR SPECIALTY IS  
**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## W. & P. ROOFING.

Best wool felt, thoroughly saturated and coated; elastic, and unaffected by heat or cold; will not rust or drip like metal; unaffected by acid fumes or gases; is not inflammable like shingles. Good for wineries, creameries, factories, warehouses—any place where steam or vapors abound; for roofing and lining dry kilns—will stand heat and insulate perfectly; for dwellings, stables, barns, stock sheds, poultry houses—anything needing protection from sun and rain. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO.,** 113 NEW MONTGOMERY ST., SAN FRANCISCO.



## No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15. Handles barrels or four large milk cans. Steel frame and steel wheels.

**HOOKE & CO.**  
16 & 18 DRUM ST., SAN FRANCISCO, CAL.

## THE "BOSS" TREE PROTECTOR.



### Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

### PRICES:

12 inches long,	\$ 9.00 per 1000.
14 " "	" 10.00 " "
16 " "	" 11.50 " "
18 " "	" 12.50 " "
24 " "	" 15.00 " "
30 " "	" 17.50 " "

Agents Wanted  
Everywhere.

**YUCCA MANUFACTURING CO.,**  
450 SANTA FE AVE., LOS ANGELES, CAL.

## The Fresno Scraper.

3½-4-5 Foot.



**FRESNO AGRICULTURAL WORKS,**  
FRESNO, CALIFORNIA.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

**RIALTO CANNER CO., STOCKTON, CAL.**

## CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

75% That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. THIS MACHINE AND ALL

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts.  
**HOOKE & CO.**  
16-13 Drumm St. SAN FRANCISCO

Price, 10c in stamps

Telephone Main 199.  
**Blake, Moffitt & Towne,**  
DEALERS IN PAPER,  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or



## The U. S. Leads the World

That the U. S. Separator leads all others has been proved so many times that it is a well-established fact. To those who doubt it, we call attention to two very decisive victories: one at the Pan-American Model Dairy, where

**The U. S. Won the World's Record**

with the average test of .0138 for 50 consecutive runs; the other the recent competitive test between six different makes of separators at the Kansas State Agricultural College, where

**The U. S. Excelled All Others**

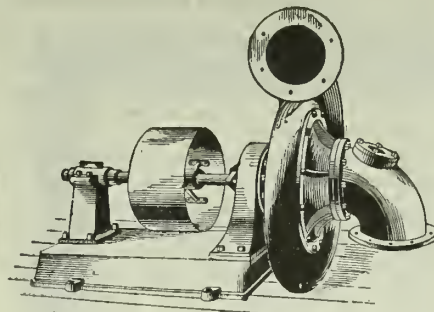
in the tests of skimmilk and total minimum loss, according to Press Bulletin No. 123.

For reports of many other victories, write for catalogues.

We have the following transfer points: Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Montreal, Quebec, Sherbrooke, P. Q., Hamilton, Ont.

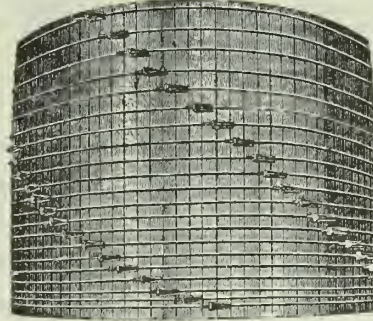
Address all letters to Bellows Falls, Vt.

**Vermont Farm Machine Co., Bellows Falls, Vt.**



**PEERLESS**  
Centrifugal Pumps  
—AND—  
**Gasoline Engines**  
FOR ALL PURPOSES.  
Complete Pumping Plants Furnished.  
SEND FOR SPECIAL QUOTATIONS.  
**Baker & Hamilton,**  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

### OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK (Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**  
SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.  
**C. A. HOOPER & CO., Agents,**  
204 FRONT STREET.....SAN FRANCISCO.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**  
GEO. C. ROEDING, PRESIDENT AND MANAGER  
P.O. BOX 18  
**FRESNO, CAL.**



### PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased to send you one.

SAN DIMAS CITRUS NURSERIES

San Dimas, Cal.

## Why Use Expensive Power?

PUMP, SPRAY, SAW WOOD, CUT FEED, CHURN,  
and do any other work better and cheaper with a

## 20th CENTURY WONDER

than you have ever done before.

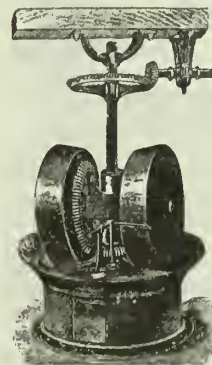
USES FUEL AT 2c. TO 5c. PER GAL. 1½ TO 30 H. P. SIZES.

WRITE AT ONCE.

WONDER ENGINE CO., 321 Mission St., San Francisco.

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**

Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.



## TOULOUSE & DELORIEUX,

620-622 COMMERCIAL ST.

SAN FRANCISCO, CAL.

## OLIVE & MILLS.

WINE MACHINERY.

THE LATEST AND BEST.

SEND FOR CATALOGUE.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY  
COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## Patrons of Husbandry.

### Tulare Grange.

TO THE EDITOR:—Tulare Grange held its regular bi-weekly meeting on Saturday, the 5th.

There was a good attendance and a nice social lunch. In the absence of the Worthy Master, Bro. Shoemaker acted as Worthy Master pro tem.

After the reading and approval of minutes of last previous meeting the Secretary read a communication from the Secretary of the State Grange asking the Secretary of this Grange to promptly send her the names of Alternates elected to the State Grange that she may have her books and report in readiness for the State Grange at its opening. Bro. and Sister Twohy were elected as Alternates.

The Secretary was requested to write to Congressman Daniels for Year Books of the Department of Agriculture and Annual Reports of the Bureau of Animal Industry.

The subject of the day was then taken up: "What farm crops are most profitable in this locality?" The farm crops of this locality is a subject with which every member is familiar and on which they can intelligently talk. One said milk is a profitable crop; another said hogs; another said chickens; one Sister said from thirteen acres of Egyptian corn she had cleared \$130, exclusive of pay for the team, her husband's work and his board. Finally, all agreed that for an all 'round safe, profitable crop, alfalfa is most reliable. It was also agreed it is not safe to rely on any one crop, but intensive and diversified farming is the safest and brings the most satisfactory results.

The question box was now opened by the Secretary and two questions withdrawn therefrom, the first question being, "Should Grangers join in the proposed co-operative creamery?" It is proper to state, in relation to this question, that many of the leading milk producers of this locality are now endeavoring to organize a co-operative creamery association, to buy the creamery now owned and operated at this place, and to run it on a plan similar to the Rochdale Co.

During the session of the Grange a Milk Producer's meeting was being held in another place to promote that object, at which several of our Grange members were in attendance. While the subject was being discussed, Bro. Fowler came in from the other meeting and reported much progress was being made and it is more than probable the proposed association of milk producers will be perfected.

The second question, "How can Patrons of Husbandry assist farmers to co-operate in business transactions," was of a more general nature than the first. It led to a consideration of the better results, proposed in all business transactions by association and co-operation, that this association invariably gives better results to the producer, a better and a more satisfactory article to the consumer. It prevents fluctuation in prices and guarantees to the consumer good articles at the lowest prices a fair remuneration to the producer will permit.

In discussing the subject the marked failure of the California Cured Fruit Association came up, someone claiming this failure showed a lack of ability on the directors' part. This was promptly denied and it was asserted and not disputed the directors were all men of good, careful business qualifications, they acted in good faith, and during the one year they conducted the association there is no question but they produced better results than had been obtained for several years before or any year since. The results of last year's sales of prunes (with as good a crop as California ever produced, at prices that left a deficit to more than half the growers) is an object lesson in the evil resulting from individual competition and want of association. Had the prune growers of California stayed with the Cured Fruit Association, as they should have done, no such disastrous results could or would have occurred.

Looking back at and considering the subject from its inception to its failure, it was admitted the failure of the C. C. F. A. resulted from the ponderosity of the structure and the large amount of unfit material used in it, and not from any deficiency of its directors. Can a co-operative State association be successfully formed? Not now; after a due course of education, preparation, suffering and time, yes. Township and local associations can be and are successfully formed and operated. Let those local associations prepare the way for county and district associations, and they prepare the way and the material for the State structure. It looks to this Grange that in this way, and only in this way, can a successful State co-operative association be formed and operated; that on these lines the Order of Patrons of Husbandry can effectively promote it. Let the Order at all times and in all places, morning, noon and night, advocate co-operation, and that is how it will assist to better business results. Make it plain to the farmer that lack of unity and personal competition will surely be disastrous.

The subject for next meeting will be "What has been the Most Beneficial Invention of the Past Twenty Years?"

The subject of "Parcel Post" was referred to the State Grange. J. T.

## AGRICULTURAL ENGINEER.

### Good Roads Notes.

An object lesson road, built under the supervision of the United States Department of Agriculture, has been completed at Morgantown, W. Va. This being the first work of the kind done in the State, its completion was celebrated by the holding of a good roads convention. There was a good attendance of representative citizens from all parts of the State, addresses were delivered by a number of prominent men, and it is believed that substantial progress toward general improvement of the highways has been made. Perhaps the most significant feature of the convention's work was the unanimity and enthusiasm with which it endorsed both national and State aid.

The Washington Post, in a leading editorial, condemns both national and State aid as paternalistic. It says that "the duty of road building attaches solely to the communities immediately concerned." This is a narrow view. The same view applied to education would make the local communities pay all the expenses of the schools; yet State aid to education is the rule, not the exception. If the Post's contention is right, the local community should be required to establish its own postoffice and hire its own postmaster and mail carriers. In fact, nearly everything the State and national governments are doing for the people would be condemned as paternalism, viewed from the same standpoint.

But the Post's ideas are not all so absurd as the one quoted above. In the same issue it has the following to say concerning convict labor:

"In the building of good roads lies the solution of the convict problem. The convicts we have always with us. The crop is constant as it is abundant. Why not use them to construct enduring turnpikes, instead of cooping them up in prison shops or leasing them out to private speculators in human flesh and blood? In the one case we put criminals in competition with honest labor. In the other we traffic in scandal, cruelty, and demoralization. Were the able-bodied convicts throughout the country employed upon the public roads, as we suggest, we should have within ten years as excellent highways as those of France, Germany or England. Moreover, it would be a legitimate employment that would operate injury to none and benefit to all."



**FENCE! STRONGEST MADE.** Bull Strong, Chicken Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COLLED SPRING FENCE CO. Box 209, Winchester, Indiana, U. S. A.

## Has a Squirrel Disease Appeared?

The county paper published at Martinez says that a strange disease has broken out among the squirrels in Contra Costa county, and at the rate at which the little pests are dying from it it will not be long before the squirrel question will not bother the county at all. For years the farmers have been debating the best means of suppressing the squirrel nuisance, which has assumed greater and greater proportions year after year.

The disease broke out among the squirrels in Moraga valley. The effect of the progress of the disease is to swell the squirrels up and render them stupid and weak. After awhile they just lay over and die.

From different quarters of the county come reports of squirrels similarly attacked, and there is no doubt that the disease is spreading.

It was found in Moraga valley that if the bodies of squirrels who had died of the disease were put into squirrel holes the disease was communicated to the live ones. This fact suggests the method by which the pests may be exterminated all over the county.

## Making Grain Piles Proof Against Mice.

A Redlands Facts representative was in one of the large local warehouses the other day and watched the piling up of thousands of sacks of barley, in a mass so compact that the workmen said mice would never work through it. The way it was done is this: After laying a tier of the sacks of grain, a number of sacks would be opened and the spaces between the sacks filled with grain, so closely that not the smallest kind of hole was left anywhere. Another layer of sacks was then placed and the filling operation repeated.

The workmen stated that mice could not work in grain thus piled, except around the outside of the pile, and that it was comparatively easy to keep the warehouse practically free from mice.

Warehousemen sometimes lose hundreds of dollars in grain sacks destroyed by mice in a single season, but the above method is said to quite effectively solve the problem.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING AUGUST 25, 1903.

- 736,919.—WINDOW SCREEN—J. W. Adams, Santa Ana, Cal.
- 737,053.—RAILWAY SIGNAL—Ammann & Cambell, Spokane, Wash.
- 737,054.—PRESSING FRUIT INTO BOXES—Anderson & Fleming, San Jose, Cal.
- 737,216.—CAN HEADER—C. E. Forry, S. F.
- 736,951.—MARINE PROPULSION—H. H. Fowler, Oakland, Cal.
- 737,384.—SNAP HOOK—J. A. Gavitt, Pendleton, Or.
- 737,222.—SNATCH BLOCK—E. S. Grammer, Kansas, Wash.
- 737,100.—LAWN MOWER—C. F. Hamlin, Pasadena, Cal.
- 737,239.—STEAM ENGINE—S. B. House, Saticoy, Cal.
- 737,420.—SINGLE TREE—P. Krall, S. F.
- 737,127.—ROTARY ENGINE—J. F. Muncy, Everett, Wash.
- 737,269.—LOADING MACHINE—T. M. Park, Darrington, Wash.
- 737,140.—NUT WRENCH—P. F. Rice, Tustin, Cal.
- 737,274.—PUMP—G. C. Richards, Berkeley, Cal.
- 737,487.—SMELTING FURNACE—E. Riveroll, Los Angeles, Cal.
- 737,499.—PUMP—C. F. Scott, Winthrop, Cal.
- 737,291.—CAN BODY MACHINE—W. H. Smyth, Berkeley, Cal.
- 737,513.—CAR CONTROLLER—W. H. Snyder, Seattle, Wash.
- 737,533.—EXTRACTING GOLD—E. L. Van der Nallen, S. F.
- 737,546.—STOVE—J. N. Young, Alameda, Cal.
- 36,514.—DESIGN BADGE—J. C. Irvine, S. F.
- 36,527.—DESIGN—Daisy M. Wunschow, Santa Cruz, Cal.
- 36,528.—DESIGN—Daisy M. Wunschow, Santa Cruz, Cal.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

DEVICE FOR PRESSING FRUIT INTO BOXES.—No. 737,054. Aug. 25, 1903. W. C. Anderson and C. F. Fleming, San Jose, Cal. Assigned to Anderson Barngrover Mfg. Co., a corporation of San Jose, Cal. The object of this invention is to provide a

machine capable of pressing several thousand boxes of fruit in a day, that is uniform in its results, that does not mar the fruit, and that is adjustable for variation in filling and for different sizes of boxes or packages. It consists of a horizontal endless carrier upon which the boxes or other receptacles containing the fruit are conveyed, a superposed adjustable pressure surface arranged and operating in relation to said carrier, and means for compressing the contents of the boxes as the latter are passed between said carrier and surface.

ANIMAL TRAPS.—No. 735,957. Aug. 11, 1903. G. F. Eherhard, San Francisco, Cal. Assigned to the Geo. F. Eherhard Co. of San Francisco, Cal., a corporation. This trap is designed particularly for gophers and other burrowing pests. The object of the invention is to obviate the disadvantage present in ordinary traps of this general type by forming these jaws so that by no amount of wriggling can a gopher once in the grasp of the jaws escape.

VINEYARD OR ORCHARD CULTIVATOR.—No. 735,986. Aug. 11, 1903. Ira B. Kilgore, Concord, Cal. The object of this invention is to provide a cultivator which can be driven between rows of growing vines, trees or like objects so as to thoroughly cultivate the soil between the rows, and to so construct the device that the angle of the cultivating teeth to the line of travel may be changed, so as to throw the soil to or from the rows between which the apparatus is traveling, and also to so change the forward and backward tilt of the teeth that they may be more or less upright with relation to the line of travel.

## DAIRY FOR SALE.

Flourishing Dairy Business in Stockton.

COMPLETE EQUIPMENT, FINE CASH ROUTES, LONG ESTABLISHED.

Owners Sick and Must Sell.

ADDRESS:

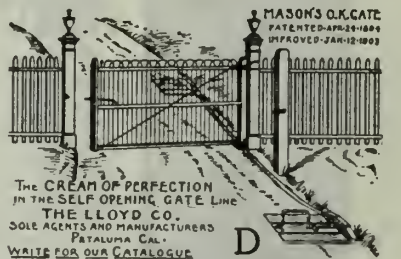
S. P. ADAMS.  
R. F. D. 1, STOCKTON, CAL.

—OR—  
C. E. HOWARD,  
1236 MARKET ST., SAN FRANCISCO, CAL.

## GARDEN LAND TO LEASE.

30 ACRES OR MORE OF GOOD BOTTOM sandy soil, suitable for general market gardening; 2 miles from R. R.; 2 miles from one of the best young towns in the State. Three outside vegetable wagons sell from \$30 to \$40 per week per wagon. Close to two summer resorts and other small towns where vegetables sell high. House, barn, etc. For particulars, address

WALTER ARMSTRONG, Sebastopol, Cal.



**WIRE FENCE** GOODS DIPPING BASKETS  
West Coast Wire & Iron Works.  
19 Fremont Street, San Francisco, Cal.



**Your Line Fence**  
should always be PAGE. It's so much stronger. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

**3-HORSE POWER Webster Gasoline Engine.**  
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY. SEND FOR CATALOGUE. WOODIN & LITTLE, 312 Market St. San Francisco, Cal.

Single and Double Acting Deep Well Pumps of the highest efficiency. STEAM AND GEARED PUMPS pumping water supply for cities, railroads and factories. THE DOWNIE PUMP COMPANY, Box 21, Downsville, Pa.



### The Northern Prune Crop.

The Oregon Agriculturist of Sept. 1st protests against excessive estimates which are current of the total of the coming prune crop, and submits the following figures and comments:

Oregon.....	16,375,000
Washington.....	9,700,000
Idaho.....	1,200,000
Total.....	27,275,000

The foregoing estimates include prunes of all kinds. There are approximately 40,000 acres in prune orchards in Oregon, Washington and Idaho. It may be assumed that 30,000 acres are in full bearing. An average output of 1000 pounds of cured prunes per acre for the whole acreage of bearing orchards is practically a full crop, although many orchards may yield three or four times that amount. As we stated in our former article, the output is limited by the evaporator capacity and there is no reason to believe that it will be possible, under favorable circumstances, for the evaporators of the Northwest to turn out much more than 30,000,000 pounds of cured fruit this year. It does not appear probable that conditions will be favorable. In western Oregon and western Washington the germs of the brown rot are very abundant, and the weather lately has been such as to greatly increase their number. Most of the prunes will ripen late and will contain a large percentage of moisture if we continue to have rainy weather. The scarcity of peaches in the East will cause the shipment fresh of an unusually large proportion of the Italian prunes grown east of the Cascade mountains. There is no occasion for any grower to worry about the big crop or fear a glutting of the market. There are a few years in which the conditions are as favorable for the marketing of prunes at good prices as they are this year.

### Raisin Growers Combine.

WOODLAND, Sept. 2. — The raisin growers of the State have combined and now control fully 90% of the entire grape acreage of the State. The combination was effected at a meeting of Woodland Sultana Growers' Association, held last night, when assurance was received that the Fresno association, known as the California Raisin Growers' Association, had accepted the proposition of the local association, submitted a few days ago, which acceptance practically means the merging of the two associations. While the terms of the proposition have not been made public it is evident that the local association was granted important concessions. Representatives of both associations have met twice before and could not agree upon terms. Finally the local association submitted a proposition to the Fresno association, which, after several days' consideration, was accepted. At the meeting last night a schedule of prices for Muscatel raisins was adopted in accordance with the schedule adopted by the Fresno association, local prices being 1/4 of a cent per pound lower than those of Fresno. Local prices are as follows:

Two-crown 6 cents per pound, three-crown 6 1/2 cents, four-crown 6 3/4 cents.

The above prices are for raisins packed in 50-pound boxes f. o. b. to a combination shipping point. These prices, it is estimated, will net the grower 5 cents in the sweat boxes. A few local growers have already sold outside the association for 3 1/2 cents and better.

### FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

### ENTERPRISE STOCK FARM.

The home of such Shorthorns as Inwood Chief, the prize winning two-year-old of the State, also open class of 1902 and sweepstakes; and Hopeful 57, champion heifer and cow, won first as two-year-old of State and open classes, the winner of sweepstakes cow of any age, also grand sweepstakes of her herd. Young stock, registered and graded, for sale. H. P. EAKLE JR., Woodland, Yolo Co., Cal.

## Breeders' Directory.

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st or 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds. 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs. Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**THOMAS WAITE**, Perkins, Cal. Jersey Cattle. Prize-winning Berkshire Hogs, all ages.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAKS & SON**, Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**BERKSHIRE AND POLAND-CHINA PIGS**, both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINA FOR SALE**, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo C. Roeding, Fresno, Cal.

**P. H. MURPHY**, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**SANTA TERESA POULTRY FARM**, Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eolipae Aluminum Leg Bands; sample 2 cts.

**WILLIAM NILES & CO.**, Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP.

**R. H. CRANE**, Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY**, 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS**, Breeders of all the Leading Varieties of Poultry. Dept. 31, Box 2602, San Francisco. M'n't's of Pacific Incubator and Brooder. Send for Catalogue.

### The Thoroughbred BERKSHIRE BOAR, Highelere Oxford 63442.

Sired by Highelere Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young sows and boars of breeding age from this fine boar and out of choice sows for sale by

CHAS. C. PERKINS, Sacramento, Cal.

**RED CROSS WIND MILLS**

ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURNABLE. SEND FOR CATALOGUE. MAILED FREE.

**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

## ALMOND HULLERS

—For Sale by—

A. O. RIX, Irvington, Alameda Co., Cal.

## POOR SEPARATORS MAKE POOR FARMERS!

# DE LAVAL CREAM SEPARATORS

are superior to other Cream Separators

BECAUSE they possess the "Alpha-Disc" and "Split-Wing" improvements which cannot be used by any other manufacturer.

BECAUSE the vastly greater sale of De Laval machines—ten times all other machines combined—  
together with the protected patents, enables the De Laval makers to produce a perfect Cream Separator, which no competitor could attempt.

Everything the dairyman needs, everything in dairy apparatus and supplies, both for farm and home, carried by us. The largest stock of dairy goods on the Pacific coast constantly on hand.

A De Laval catalogue explaining in detail the facts here set forth may be had for the asking.

**DE LAVAL DAIRY SUPPLY COMPANY,**  
9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

## BETTER NOT BUY A SEPARATOR AT ALL THAN ONE THAT IS WORTH NOTHING!

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the **BEST**

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

**TEN BRANDS**—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Crumming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## PORTABLE BUILDINGS

No. 46—Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up. Send for Illustrated Catalogue, with Prices.

**BURNHAM-STANFORD CO.**, Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.



## AN AUTOMOBILE

IS WHAT YOU WANT.

Practical, Economical, Up-to-Date and Stylish.

WE HAVE THEM NEW AT \$450 (See Cut).  
SOME GREAT BARGAINS \$350 UP.

**MOTOR VEHICLE CO.,**  
A. C. Wheelock, Mgr. 1814 Market St., San Francisco.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## Cocoonut Oil Cake.

THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

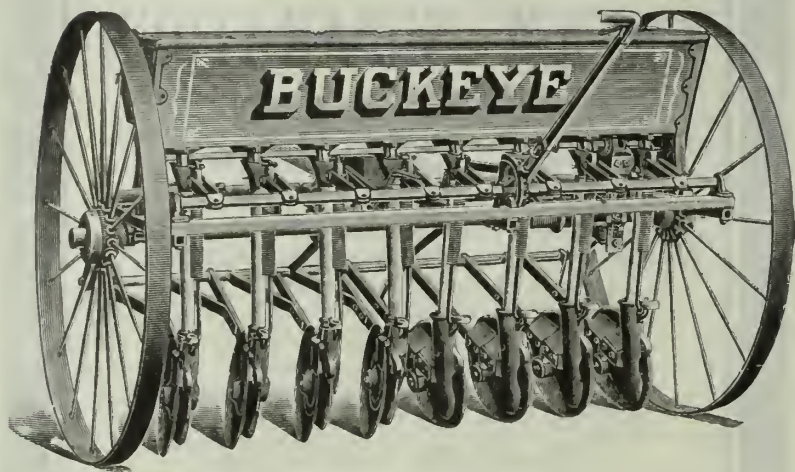
All Inoculated for Texas Fever, at

**CHOWCHILLA STOCK FARM.**  
Address... ISAAC BIRD, Merced, Cal.

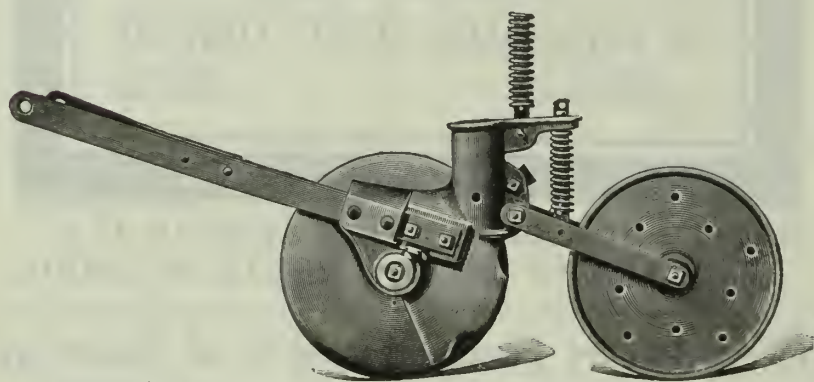


# BUCKEYE

STEEL FRAME HOE, SHOE AND DISC



STEEL FRAME DISC DRILL.



Cut showing Buckeye Disc and Boot. It will not choke up in wet ground between the disc and boot.

## GRAIN DRILLS

Have all the latest improvements in seed-ing machinery.

Frames are made of square steel tubing, which actual tests have proved to be the strongest, most rigid and best material obtainable for the purpose. The feed cups are the double-run principle for sowing large and small grain with uniform accuracy. This is a positive force feed and will handle all kinds of grain successfully.

MAKE YOUR CONTRACTS EARLY.

Deere Implement Co.

SAN FRANCISCO.

## Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

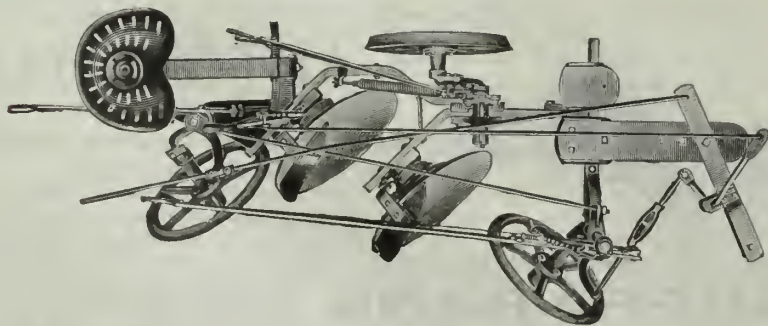
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

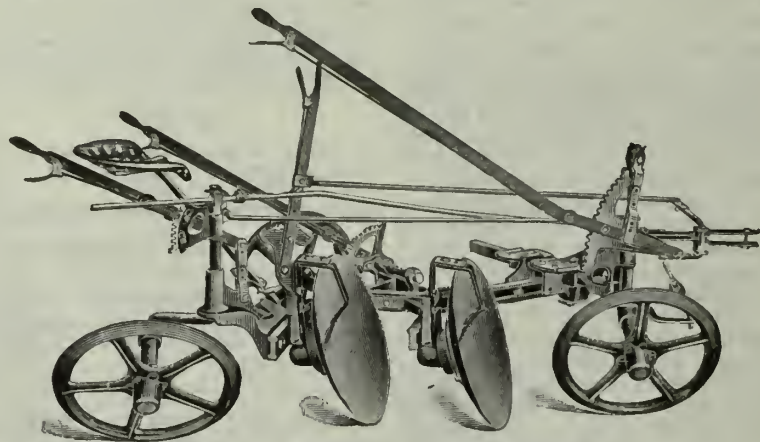
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

HOOKER & CO.

16-18 DRUMM ST., SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

## CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 12.

SAN FRANCISCO, SATURDAY, SEPTEMBER 19, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Another Great Valley Oak.

In our issue of August 22 we published a portrait of the famous Sir Joseph Hooker oak on Rancho Chico which attracted much attention in the Chico district. The Enterprise republished our account of the tree, and as the measurements given were made in 1894 it was decided to measure the tree again to see what another decade had done for it. The present dimensions of the tree as secured by Colonel Royce are as follows: Spread of branches N. W. to S. E., 147 feet; spread of branches N. E. to S. W., 136 feet; spread of branches E. to W., 133 feet; circumference of trunk 5 feet above the ground, 23 feet 1 inch; circumference of two principal forks or limbs, 17 feet 4 inches and 15 feet 3 inches, respectively; height, 105 feet. Readers will be interested with the measurements of the same tree which accompanied our portrait of it in a recent issue.

Upon this page will be found a portrait of another great valley oak, growing about 300 miles south of the Chico tree, and its friends naturally wish to have it entered in the PACIFIC RURAL PRESS Gallery of Arboreal Fame. We take pleasure in presenting the engraving prepared from the photograph furnished. We are indebted to Mr. John Moller of Tulare for the data concerning the tree, which is fitly named "Beauty of Tulare County." The tree is on the farm of Mr. J. A. Moorehead, 5 miles northwest of Tulare City, and, like the great Hooker oak, the symmetry of the tree is its chief charm. The following are its dimensions: Circumference of trunk, 20 feet; circumference of largest branch, 15 feet; spread of limbs from trunk on south, 64 feet; spread of limbs from trunk on north, 60 feet; spread of limbs from east to west, 114 feet; approximate height, 100 feet. It will be seen that the Joseph Hooker oak is considerably larger, but, comparing the portraits, the "Beauty of Tulare" has apparently more limbs and shows less daylight through the crown.

There are no doubt many rivals of both these trees throughout the great valleys of the Sacramento and the San Joaquin, but both are excellent exponents of their species, and we cannot accompany their portraits better than by borrowing from the appreciative tribute of the late Dr. A. Kellogg of San Francisco the following glowing sentences: "Of all the trees of the grove for robust and sturdy dignity of character, nay, majestic elegance and manly pose, for freshness and for variety of expression in body and branch, twig and leaf, none excels the summer-green white oak of the valleys and plains of the Pacific. Main trunk mostly short, 5 to 10 feet or more in diameter; 50 to 100 feet high, or even more; huge limbs, duly balanced and distributed, diverging at broad and varied angles from massive forks; branches with flexed elbows hither and thither or bent and contorted in all directions; the ultimate



Valley Oak (*Quercus lobata*) on Ranch of J. A. Moorehead, Near Tulare.

twiggy sprays alike irregular, often only minuter mimics of their originals. Yet some of the finest types, to foil this natural irregularity, crown and drape themselves throughout with pendulous branches; the deeply lyre-bayed leaves, lobes slender and blunt, openly notched, often again sub-lobe-toothed, downy only beneath in age; grayish green, somewhat softer and lighter-hued below. The great cloud-like masses of foliage are, as it were, often in first, second and third-storied tumuloid groups, yet never towered, seldom somber in any species, least of all in this; even the most remote approach to formality suggests no monotony, for the long, drooping branches pend archwise, like the grand and eloquent American elm, still preserving their self-restraint, ease, strength with grace, neither rough nor rigid. We repeat again, with ever-increasing emphasis, our wonder at the wealth of foliage, massed above, curtained below, pouring, with unparalleled bounty, foliage on foliage, in great heaps upon the ground, as though it were not enough to canopy and cloud the sky and the horizon round

about, but these sweet, fragrant, summer-green white oaks must needs carpet the earth."

### Good Indians With a Bad Name.

There is a bunch of Indians on Tiburon Island in the Gulf of California, close to the coast of Sonora, which has a very bad name—as they are called the "man-eating Seri." This is all shown to be a serious error by Mr. H. Gordon Glore, who recently visited the island with a camera, lined up the inhabitants for the picture which appears on this page and writes that his experience with the Seri Indians was of a very friendly nature, although the introduction was slow and backward, owing to the precautions taken by both parties. As the fear gradually wore away, much trading and talking were indulged in.

For weapons they have bows and fierce-looking arrows, and three old-style rifles among them.

Very little attention is paid to the building of their houses; a few small sticks stuck in the ground with the tops bent in, some brush around the sides, is "home sweet home" to the Seri.



The Seri Indians on Tiburon Island, Gulf of California.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON..... Horticultural Editor

San Francisco, September 19, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Valley Oak (*Quercus Lobata*) on Ranch of J. A. Moorehead, Near Tulare; The Seri Indians on Tiburon Island, Gulf of California, 177.  
EDITORIAL.—Another Great Valley Oak; Good Indians With a Bad Name, 177. The Week, 178.  
QUERIES AND REPLIES.—Four Native Plants, 178. Shall He Grow Bermuda Grass? Nut Growing; The Troubles in the Mountains; Russian Thistle; Red Bietigheimer; Yellow Star Thistle, 179.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Sept. 14, 1903; Rainfall and Temperature, 179.  
ENTOMOLOGICAL.—Report of the Condition of Black Scale Parasite, 180.  
FORESTRY.—Mr. Gifford Pinchot's Lectures at University of California, 180.  
THE POULTRY YARD.—California Conditions and Methods, 181.  
THE STO K YARD.—State Fair Cattle Awards; Pure Bred Stock Breeders' Association, 182.  
AGRICULTURAL REVIEW.—183  
THE HOME CIRCLE.—The New Brother; Willie Wiggles; How Animals Swim; A Bargain; "Wait, My Sister;" Animal Stories; Foods, Digested and Undigested; How Chamols Skins Are Made, 184. The Secret of Success; The Crisis; Hints to Housekeepers; Domestic Hints, 185.  
THE MARKETS.—Produce Market; Fruit Markets, 186.  
THE VETERINARIAN.—The Sheep Scab and the Law, 188.  
CEREAL CROPS.—What the Grain Growers' Association Proposes, 189.  
THE IRRIGATOR.—Instances of Profit in the Salinas Valley, 190.  
MISCELLANEOUS.—New Patents, 187. The County Awards at the State Fair; Directors' Meeting, 191.

## The Week.

Again we have data for a comforting contrast between the surety of harvest conditions in California and the distressful uncertainty of the older settled regions of the world. It is an old English saying that no man can farm against the weather, and one appreciates its depth of meaning as he reads the telegraphic reports of Saturday last, which, in characterizing a storm which seems to have covered northern and central Europe, says that all the coast towns of England suffered more or less, and the agricultural sections in the interior report incalculable damage owing to the late harvest. The beautiful hop gardens of Kent have been ruined, and in many places the valleys of the Thames and Severn are submerged, quantities of sheep and cattle being drowned. Dispatches from France and Germany indicate that widespread damage has been caused by the storm on sea and land. While this has been going on we have only had dry winds, which have in places shaken down some prunes and mused up some raisin trays, perhaps, but have done no wide injury. But our freedom from real danger is often a temptation to be reckless in our summer structures, and a reminder of it is a good thing for us. For example, at the State Fair last Friday the wind played havoc with the tented annex, where the poultry was on exhibition. Some of the coops were blown over, and prize ducks, geese and chickens were scattered in all directions. None of the birds escaped from the grounds, however, as the fence was too high for them to fly over. The game cocks were all liberated, and they furnished amusement for the crowd of people before they were captured. But three chickens were killed, although the show contained about 1200 birds. This is the way the weather usually chastises carelessness in California. The "tented annex" was probably merely a sort of a sunshade of light construction, such as people of other climates would never think for a moment of making, and its mishap should remind people that even in California it is not advisable to risk life and valuable property under such an umbrella of a building. The California climate is rich in encouragement and gentle in admonition.

The cereal markets have not shown much life since last review. There have been no cargo clearances the past week of either wheat or barley. One ship was chartered for Europe, carrying barley as main

cargo at 15s, wheat for stiffening to be taken at 12s 6d. Despite the positive showing that the world's supply of wheat is light, as compared with probable requirements, the speculative element has been endeavoring to bear values the past week, but the efforts have not been attended with much success. Quotable values for spot wheat show no decline. Barley buyers have been talking slightly lower figures, but sellers refuse to let go at any appreciable decline. Oat values are being sustained as last quoted for most kinds, except blacks, which are scarce and higher. Corn is quotably lower about \$1 per ton, Eastern being in increased supply and market not very active. New beans, white and colored, are arriving from Sacramento river section and are meeting with fair demand at figures close to the prices lately ruling on old. On mill feeds the tendency is to easier figures. Prices for high-grade hay are being well maintained; on common qualities there is some competition to realize. Market for beef and mutton is steady for best, but slow for poor qualities. Hogs desirable for packers are being readily taken at full current figures. The small hog is coming forward in greater numbers than the demand for this sort warrants. Fancy fresh butter and gilt-edge eggs are being sought after at stiff prices, but where the quality is lacking, so are the buyers. Most of the city folk are now consuming refrigerator butter and cold storage eggs, but there are a great many of them not aware of the fact. Cheese market remains slow and weak for flats other than fancy new. Choice chickens met with a fairly firm market, but poor fared badly. Young geese and young pigeons sold at a slight advance. Potatoes were in more active request, but at easier figures. Demand for onions was fair. Most tree fruits are showing reduced receipt. Bartlett pears are nearly out; canners paid \$40 per ton for choice and would like more of same sort at same figure. Lemons were in good request at old prices, with limes scarce and high. Orange market was featureless. Lately established prices on almonds are being maintained. New crop walnuts are looked for soon and buyers are watching their opportunity to secure them. The Southern California Walnut Growers' Associations have fixed the price at 12½c for paper shell. In dried fruits, peaches and pears are receiving considerable attention. Very few fancy pears and not many small peaches offering. Peeled peaches are scarce. New prunes quiet, but steadily held. Two cars of new apricots and four cars of old prunes went by steamer to Germany. Honey remains firm. Hop market is strong. Wool quiet but steady.

The directors of the State Agricultural Society have reason to be satisfied with the energetic and circumspect work they have done with this year's fair. In the nature of things they could not have secured an exhibition great all around in the short time which they had after their appointment and the handicap of popular doubt, listlessness and misgiving which they had to carry. But under the circumstances they did very well. They built up some of the more important features of the fair to the highest excellence. For instance, Prof. Carlyle, the judge from the Colorado Agricultural College, is credited with saying that some of the live stock shown is the finest in the United States. A gold medal was awarded to Luther Burbank for his exhibit of advanced horticultural materials and in recognition of the vast benefit accruing to the horticultural interests of the State through his work. In this line then the directors struck high-water mark in their effort this year. In the dairy line there was another success and the directors were warmly thanked by the dairymen assembled in convention. Not less significant is the preliminary announcement that, before the books are accurately balanced, it looks as if the fair will come out ahead for the first time in many years. One of the directors estimated that there will be a profit of \$4000 or \$5000, despite the fact that the receipts will fall fully \$1000 behind last year. This is due to a most economical administration. The directors were very wise not to do any plunging this year. It was very necessary to show that they could take in more than they paid out just for the business aspect of it. Of course that is not, however, a criterion for the future necessarily. There are higher and more widely useful standards

of success. There was too much cheap clap trap to draw crowds, and except in spots the fair was in no sense great or satisfactory as a fair. But probably the institution has been brought to a point where the knockers will be content to hang up their hammers and take hold with all others in developing a fair which shall be industrially and educationally great and be an impetus to State development and the advancement of all lines of valuable production.

The telegraphic reports from the meeting of the American Pomological Society at Boston notes that much interest was taken in the discussion of the results of the Canadian system of inspection and certification of fruit packed for export to Europe or for other trade. It was shown that the results have been very beneficial. Inspection has made packers careful and now when a man buys a No. 1 package he knows that it means a high quality. Several members of the society advocated the passage of a similar law in the United States, and no doubt the matter will receive wide agitation. It should be remembered that the California Legislature passed an act approved March 20, 1903, providing for the marking, branding or labeling of boxes, barrels or packages containing fruits, fresh or dried. A violation of this law constitutes a misdemeanor, punishable by a fine of not less than \$200 nor more than \$500.

The Pajaro Valley Orchardists' Association alleges that the law is being violated to the detriment of both the grower and the community, by the shipping from Watsonville of large quantities of fruit not properly labeled as required by the statute. In the same communication to Governor Pardee the Association recommends the appointment of A. N. Judd, of Watsonville, as an inspector, in accordance with the law, and the Governor has made the appointment. We are glad that the appointment has been made. Mr. Judd stands heavily on his feet and he has a backbone which reaches from the top of his hat to his heels. He is an ideal man for the job he has been set at, and if the Watsonville packers do not keep the law they will think Gabilan peak has fallen on them.

The editor of this journal has no reputation as a carpetbagger and he has resisted many temptations to descend from the tripod and pursue the rolling dollar, but with old age come many weaknesses and our editor has fallen. The report became current at the close of last week that the Commissioner of the General Land Office has issued a statement showing that approximately \$8,461,494 was covered into the Treasury to the credit of the reclamation fund from the sales of public lands and fees and commissions in the various irrigation States in 1903. This amount will be distributed among the same States. The irrigation projects of the Government will be carried on by means of this fund. The statement shows that an aggregate of \$16,197,836 has been received from sales of lands in the various States during 1901, 1902 and 1903 for use in furthering irrigation plans. This vast sum of money in sight was too much for our editor and he has gone to Ogden to take part during the present week in the proceedings of the National Irrigation Congress, which will help the other Congress at Washington to spend this money. Our readers will hear later how the matter stands.

## QUERIES AND REPLIES.

### Four Native Plants.

TO THE EDITOR:—I send with this four specimens of plants quite common in this part of Kern county. They are considered good for a variety of ills. I should like to learn if they are known to possess any medicinal properties, and I wish to know their botanical names.—COLLECTOR, Lebec.

Mr. H. M. Hall, assistant botanist at the State University, furnishes us interesting notes in reply: One plant is Yerba Mansa (*Anemopsis Californica*). The root of this plant has been used by the native Californians in cases of malaria, and also in diarrhoea and dysentery. It is also commonly used as a remedy for sores and wounds on stock. The roots are pulverized and made into a poultice by the addition of water, and this is bound onto the sore.

Another plant is "Desert Tea" (*Ephedra viridis*).



The several Californian species of ephedra are all used in domestic practice to some extent, usually as an infusion in the form of tea for some venereal diseases. The ephedras are low shrubs with broom-like, nearly leafless branches and grow in the desert regions.

Another plant is "White-leaved Yerba Santa," (*Eriodictyon tomentosum*). The Yerba Santos (of which an allied species, *E. Californicum*, is the most important) have been much used in California as a bitter tonic and as remedy for colds, asthma, bronchitis, etc. The leaves are used in various ways, such as a sirupy infusion, or they are chewed, or dried and smoked like tobacco. It has been recently admitted into the U. S. pharmacopœia. Mr. V. K. Chestnut, the government expert who has made a special study of the plants used by the Indians of Mendocino county, says in his report (Contrib. U. S. Nat. Herb. vol. vii, p. 381) that no plant is more highly valued as a medicine by all the tribes of that county than is *E. Californicum*. He further states that it is found in every household, either in the dry state or in whisky extract.

The fourth plant is "Indian Hair Tonic" (*Artemisia dracunculoides*). This plant has not been examined for medical properties, but is of the same genus as the wormwood, which has been much used as a tonic for stomach troubles and gastric debility; at present it is but little used. If the Indians use it as a hair tonic, as the common name you give would seem to signify, it would be interesting to know the method of preparation and application and also the actual results attending its use. The species is very common on the plains and in the mountains of western North America.

#### Shall He Grow Bermuda Grass?

TO THE EDITOR:—I am in a quandary in regard to Bermuda grass. I have a little recreation ground and the dust is disagreeable when cut up, and water will not pack it for it will dry in an hour's time. The ground is light and not very deep, about 2 feet to lime rock, and the camp ground is somewhat rocky but covered with dirt so can cover seed or roots easily. The ground is of a dry nature, but oaks, pine and mazanita grow abundantly. Does Bermuda grass need much water? Will it grow if covered with a little dirt or sand? Which is better, the roots or seed, to plant? When should the grass be planted, in the fall or spring? Will it spread over other grounds? Will it injure any springs if near it? Will it stand to be trampled on after it gets started? How tall does it generally grow, and does it have to be cut down? Where can it be procured? Does it grow in bunches? We have water handy if it needs to be irrigated. What I want is something that will keep down the dust and be attractive and not need too much labor to keep it growing, but it will have to stand being trampled on.—READER, Lake county.

Bermuda grass is perhaps worth trying for the situation which you describe, and would probably make satisfactory summer growth with very little water. Small pieces of the root will also take hold if covered in with a little dirt or sand, and it will spread quite rapidly, and if it can will go out into all desirable lands in the region around about. It will not interfere with any springs unless it should succeed in crawling into them and choking them up. It is very persistent in spreading, and is said to have made its way through the stone wall into the Fresno county jail. It will endure any amount of trampling and does not grow tall, nor does it need to be cut. It does not make bunches, but spreads quite evenly over the surface. The best way to get a start is to buy sacks of the roots from some one who has the grass, cut them into small pieces and plant them, covering lightly. This should be done in the spring, because the grass is dormant during the winter and the top growth does not stand frost at all, although in this climate the roots are not injured. In view of the objections to Bermuda grass it might be more satisfactory if you should give the ground a good cleaning and harrowing as soon as it becomes dry enough in the spring and sow orchard grass pretty thickly. This would maintain its life during the summer time with very little water.

#### Nut Growing.

TO THE EDITOR:—I would like information regarding nut culture, and especially pecans and English walnuts in your State.—G. I. M., Sac City, Iowa.

There has been very little demonstrated about the profitability of pecan growing in California, although there are old trees bearing well at Chico and some

other points in the interior. What their requirements are generally, and whether they are likely to prove profitable in this State, is not known. They are apparently better adapted to the situations in the interior valley than to the coast districts. As for English walnuts, they have become a very important crop in this State, the main commercial product being grown in southern California, but there are abundant indications that the tree will be profitable at different points in the Sacramento valley and foothills where there is deep, well-drained soil and assurances of satisfactory moisture for the trees. They require a well-drained soil and yet will not thrive unless satisfactory percentage of moisture is present all through the growing season. Our book, "California Fruits," goes quite into detail in the growing of different nuts which succeed in this State.

#### Tree Troubles in the Mountains.

TO THE EDITOR:—Enclosed find apple and pear twigs which show disease or possibly borers' work. Please explain the trouble and treatment.—CORRESPONDENT, Madera county.

The apple twigs which you send show powdery mildew, which is to be checked by the application of Bordeaux mixture early in the spring just about the time the growth is starting. Other apple twigs also show the disease known as Anthracnose, for which there is no satisfactory treatment unless you can get away the diseased parts and promote vigor in the tree by better culture. When the tree is so badly diseased that cutting away the injured portions does not seem to be practicable it should be grubbed out entirely, the soil treated with common lime, worked thoroughly through it, and a young, vigorous tree planted. Of course one should be careful not to use too much lime or allow it to gather in one place.

The pear twigs do not show sign of disease, but seem to be stricken with wilt and die-back, probably due to lack of moisture in the soil. There are no borers present in the material received from you. You understand, no doubt, fully that a considerable part of the trouble which arises with our fruit trees comes from not having the correct moisture conditions in the soil; sometimes the soil is boggy and wet from seepage and excessive irrigation or sometimes it is dry from lack of moisture. Either of these conditions is apt to destroy the usefulness of the tree.

#### Russian Thistle.

TO THE EDITOR:—I mail you a sample of weed or thistle. The plants sprung up in newly sown alfalfa fields. The alfalfa seed was the Utah variety and the weed seed came in it. Is it Russian thistle? If so, tell me as to the danger of getting it spread into our fields and what it is thought of and done elsewhere. Has this plant matured enough to scatter seed?—ALFALFA GROWER, Stanislaus county.

The plant is the Russian thistle (*Salsola Kali* tragus). On the older parts of the plant the seeds are already mature. The matter should receive immediate attention and all the plants destroyed by burning or otherwise, or they will soon be breaking off near the surface of the ground and go tumbling over the neighborhood to scatter their numerous seeds. A bulletin descriptive of the weed can be had by application to the agricultural department of the University. An examination of the alfalfa seed at the right time by an expert might have prevented the introduction of this, the worst of all weeds, into the Modesto region, although there is always danger of introducing it in the packing of household goods and other material brought by railway train.

#### Red Bietigheimer.

TO THE EDITOR:—I have mailed an apple to you to ask if you can name the variety. My brother thought it the "Bietigheimer," but they tell me here that it is not at all like the Bietigheimer which is very largely grown in the Pajaro valley. I have sent a small sized apple, but the type is all there. Every one has the russet patch about the stem, and is of this shape. It is a summer apple.—AMATEUR, Santa Cruz.

The apple is undoubtedly the Red Bietigheimer. We have reinforced our own judgment by showing the apple to a man who is well acquainted with the apples grown in Watsonville, who said at once that it was the apple which they grow under that name. I think you may place explicit confidence in your brother's conception of the apple as belonging to this variety.

#### Yellow Star Thistle.

TO THE EDITOR:—I send you branches of a thistle that is rapidly spreading in this vicinity. Can you tell me what variety it is, and if it is hard to eradicate?—FARMER, Lake county.

The plant is the Yellow Star thistle (*Centaurea solstitialis*). This weed has been introduced from Europe and is rapidly spreading over western middle California. It is a particular nuisance in wheat and barley cut for hay. Since the seeds do not ripen until August or September, they are seldom distributed with seed grain. Wherever it grows on vacant land it should be mowed down or otherwise destroyed before the seed ripens.

### WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 14, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

#### SACRAMENTO VALLEY.

Generally clear weather and normal temperature prevailed during the week. High northerly wind on the 11th caused but slight damage to grapes and late fruits. A heavy crop of grapes is being gathered and large shipments to the East are being made daily. Wine grapes in considerable quantities are now going to the wineries. Conditions were favorable for fruit drying and prune curing is in progress. Almonds are nearly all gathered and hulling is nearing completion. Pears have yielded a good crop. Citrus fruits are thrifty. Hop baling is progressing. With the exception of alfalfa, the hay crop is all secured. Feed in the foothill is becoming scarce. Corn is doing well.

#### COAST AND BAY SECTIONS.

The weather during the week was warm and generally clear, with very little fog in the coast districts. Forest fires destroyed much valuable timber in the northern section. Beans in the southern counties ripened rapidly and harvest is in progress. Grain thrashing in San Luis Obispo county is nearly completed; the crop is reported very good. Hay has yielded nearly an average crop and is mostly under cover. Hop picking will be completed during the present week. Sugar beet harvest continues and the factories are in operation; the beet crop is reported light. Grape picking is progressing. The prune crop is reported excellent in quality, but the yield is below average in some places; picking and drying are in progress. Apples are yielding a good crop.

#### SAN JOAQUIN VALLEY.

Clear, warm days, with cool nights, prevailed during the past week. A brisk north wind occurred Friday in the northern portion of the valley, but no damage is reported. Almond harvest continues; the yield is variable but the quality good. Prunes are ripening rapidly and are of good size and quality; rapid progress is being made in gathering the crop. Grape picking continues and raisin making has made good progress during the week, although the week has been comparatively cool. Large shipments of grapes to market continue. Wineries have started, and at present are using Zinfandels mostly. Hay and straw baling continues in some districts. Stock are healthy and in good condition.

#### SOUTHERN CALIFORNIA.

Warm, clear weather prevailed during the week and conditions were favorable for fruit drying and maturing late crops. Grape picking continues in all sections except the higher valleys, and the yield is reported large. Raisin curing and wine making have commenced in some places. Deciduous fruits of all kinds are abundant and of good quality. Walnuts at Anaheim are ripening. Citrus fruits continue in excellent condition. Bean harvest has commenced in Santa Barbara, Ventura and Orange counties. The sugar beet crop is excellent, especially on irrigated lands. Grain harvest is completed.

EUREKA SUMMARY.—Crops in the bay district turned out fairly well—barley seventy to eighty bushels per acre and peas will average forty-five bushels per acre. Little damage has been done to apples by high winds.

LOS ANGELES SUMMARY.—Light showers Sunday in places did no damage. Peach curing is about finished, quality excellent, but crop shorter than expected. Prune drying begins soon.

#### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 9, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka.....	.14	.78	.25	.88	86	44
Red Bluff.....	.00	.01	T	.39	96	56
Sacramento.....	.00	.00	T	.17	92	52
San Francisco.....	.00	T	T	.19	92	52
Fresno.....	.00	.01	T	.15	100	48
Independence.....	.00	.00	.30	.18	92	48
San Luis Obispo.....	.00	T	T	.21	90	42
Los Angeles.....	.00	T	T	.08	86	54
San Diego.....	.00	T	.92	.12	80	58
Yuma.....	.00	.04	.11	.59	102	60



## ENTOMOLOGICAL.

## Report of the Condition of Black Scale Parasite.

By ALEXANDER CRAW, Deputy State Commissioner of Horticulture.

I herewith submit a brief report of my investigation into the condition of the South African internal parasite (*Scutellista cyanea*) of the black scale, referred to and figured on pages 91 to 92 of the "Eighth Biennial Report of the State Board of Horticulture."

According to instructions, I left San Francisco on the evening of July 9th, visited Santa Barbara, and at Mr. Gillespie's beautiful place in Montecito I found the parasite thoroughly established and spreading naturally over a distance of 150 yards from where the colony was placed on a mesquite tree. The superintendent, Mr. Compton, and Commissioner Snow have undertaken the distribution of the parasites to other parts of the estate and other districts in the county.

In Ventura county Commissioner J. F. McIntyre has established them out of doors and is also propagating them in confinement. The pepper is used extensively in Ventura as a shade tree on the streets and avenues, and a few years ago these trees were seriously infested with "black" and "hemispherical" scale. Being located near the coast the Australian black ladybug (*Rhizobius ventralis*) has done good work in checking both scales, and in this county they are not so troublesome.

In Los Angeles the scutellista has become well established. One year ago the olive grove of W. E. Hughes, located about 6 miles southwest of the city of Los Angeles, was very seriously infested with black scale, and the foliage and twigs were covered with black smut. On June 9, 1902, I requested Mr. Hughes not to spray his trees and sent him a colony of scutellista, with instructions about colonizing them in his orchard. As it is an extensive grove—half a mile long by a quarter of a mile wide—it was an ideal place to make a thorough test of the new parasite, so I forwarded him six colonies.

On July 4, 1902, larva and pupae of the scutellista were found in the scales where the first colony was liberated. On July 3, 1902, Mr. Hughes wrote: "I am glad to be able to report this morning that the scutellista has made its appearance generally throughout my orchard, thus proving its ability to winter successfully in southern California. I regard this as a matter of great importance to the fruit growers of the State, as it seems to number the days of the black scale pest. There can be no doubt as to the ability of the scutellista to destroy the black scale rapidly when once it has been generally distributed throughout the infested districts. I desire to acknowledge my indebtedness for the benefits which I have derived."

On July 16, in company with Mr. Hughes and Horticultural Commissioners Jeffrey and Strong, I visited the orchard and found the scutellista had done and was still doing splendid work, very little scale remaining, and the foliage and twigs were clean and bright. Mr. Hughes kindly granted permission to the County Horticultural Commissioners to collect colonies from his orchard for distribution to other places.

In the lemon and orange groves of J. Thomas of Monrovia I found the scutellista well established and reducing the scale so that the trees were bright and clean. The grand old pepper trees along Morengo avenue, as well as others in Pasadena, had long been an attractive feature and a pleasure to Eastern visitors and residents of Pasadena for the delightful shade and pleasing green of their foliage and the contrast of their bright red berries.

Within recent years the black scale had taken such complete possession of them that their foliage was scant and they had proved veritable breeding places for the scale. Their size and location made it difficult to spray or fumigate for them, and the county commissioners had commenced a fight of extermination. On August 25 and 31, 1902, I sent Horticultural Inspector C. A. Day two colonies of scutellista, which he liberated on a pepper tree on S. Morengo avenue, and during my recent visit we found the insects widely spread on the pepper trees, and also found them in scale on citrus trees, oleanders and other plants. Over 90% of the scales were killed by the parasites. Mr. Day reported finding them breeding in October, December, March, April, June and July. On August 21 Commissioner Jeffrey wrote me that he had distributed from the Morengo avenue source this month about 400 colonies, and adds that his commission "cannot begin to fill the applications for them. You would not believe the interest that this insect has engendered here among the citrus fruit growers."

At Azusa we found the scutellista doing well in the extensive orange groves of H. L. MacNeill from two colonies sent from this office last December. The superintendent, J. T. Lindley, stated that he would distribute the parasites throughout their orchards and give them every chance. At Dr. A. E. Englehardt's place in Glendora I found the parasites estab-

lished and spreading. At Ontario we found a few on the place of Mr. Lawson, and at Riverside on a grape fruit and an orange tree from a colony sent to Commissioner Cundiff. From two colonies sent to Dr. W. B. Wall of Santa Ana he has been very successful. The Orange county Horticultural Commissioners, Messrs. Bishop, Rafferty and Nebelung, visited with me Dr. Wall's extensive orange grove, and in nearly every scale we found a parasite, or the hole in the scale where one has made its exit. Dr. Wall has expedited the good work by collecting and distributing the parasites throughout his grove, and has also sent colonies to his friends.

I next visited Escondido valley, where I witnessed most gratifying results from the work of the parasite. I found them in B. F. Dixon's place at the head of the valley. These were from a colony sent to Horticultural Commissioner F. Austin on August 26, 1902, and which had showed wonderful powers of reproduction and had spread rapidly.

Mr. Austin placed the colony we sent him upon a grape fruit tree, and from this the parasites had spread to orange, lemon, pear, prune, pepper and other trees and plants infested with black scale for a distance of over half a mile. Mr. Austin is now distributing the parasites in other districts. He is confident that the scutellista will have complete control of the black scale in another season. At San Diego, Horticultural Commissioner C. C. Jones of San Diego and I visited Point Loma and found that the parasites have practically destroyed the scale in the large olive orchard of W. A. Chamberlain. It was a rare occurrence to remove a live scale without finding a small maggot of the scutellista at work devouring it, or rather its eggs.

We next visited the grove of C. K. Clift and found the parasites plentiful. As the trees were thrifty the scales and parasites were correspondingly well developed. It is interesting to note that when a female scutellista deposits an egg in a small but mature scale, the parasite raised from it will be perfect in every respect but size.

I visited Hollywood and Colegrove districts with Commissioner Meserve, but found no trace of scutellista. E. C. Harrington received several colonies, but his orchard was fumigated twice last season, and at the time of my visit (August 25) his orange trees were very seriously infested. About a half mile from Mr. Harrington's is the orange grove of Mr. Wilson. Here we found *Rhizobius ventralis*, larvæ and eggs, and very little scale. Mr. Wilson had done no fumigation or spraying, but had relied upon beneficial insects.

As stated by Mr. Jeffrey, "the interest that this insect (*Scutellista cyanea*) has engendered is great. It reminds one of the time when we were breeding and distributing the *Vedalia cardinalis* for the cottony cushion scale."

We have still, however, to spray or fumigate for the purple scale where it has secured a foothold. We know where its parasite exists, but it requires money to secure it.

Another insect pest that you have frequently advised the necessity of securing an appropriation to find its enemy is the codlin moth. In a recent letter from George Compere, now collecting insects (beneficial) for the Western Australian Government, he writes me that he has found a parasite of this pest that destroys over 90% of them. Of course, this is a long way from extermination, but it would help to control it, and it is as much as our best sprayers claim to kill.

## FORESTRY.

## Mr. Gifford Pinchot's Lectures at University of California.

Mr. Gifford Pinchot, Forester of the United States Department of Agriculture, is conducting exceedingly important investigations in California, as recently noted in the PACIFIC RURAL PRESS. He has also pleased the local interest in forest topics by giving three informal talks at the University of California, of which sketchy notes have been made by his hearers, and though they may not in all cases accurately represent the speaker's views, they will indicate in a general way his attitude toward our local forest interests and issues:

**THE FOREST RESERVE POLICY IN CALIFORNIA.**—The speaker pointed out the purpose and usefulness of the policy. He showed how the State was divided on the subject and the arguments adduced by both sides. He said that a great amount of the opposition was due to the fact that many of the people did not understand clearly what was meant by a government reserve. Most of the States always regard the advance of the government along these lines with suspicion, but there is no State where the sentiment is as strongly in favor of it as California. He spoke in part as follows:

"On the question of forest reserves, California, I find, is like a great family divided against itself. Southern California is unanimously and always for the reserves, and northern California is opposed to them, with central California favoring them, but not

strongly. On the whole, however, California is as consistent on the forest reserve proposition as any State in the Union.

**OBJECTIONS DUE TO MISUNDERSTANDING.**—"The purpose of the forest reserve is to provide the greatest amount of usefulness from the lands which they contain. Unless it is useful to those living in their immediate neighborhood or to those whose needs it might supply, it fails of its mission. This is the center and heart and focus of the whole question. In taking up this question the government may have overlooked some private interests in favor of the public good, and in this way opposition of the most virulent kind has been raised. These private interests have been able often to create a serious opposition. I have been engaged, however, in visiting communities where differences have arisen, and I have never yet found a case where opposition has long survived a clear understanding of what a reserve really was.

"Now on this matter of the use of public reserves and the opposition to them in California, I want to say that one of the greatest objections is that in regard to the boundaries and the exchange lands. In northern California 12,000,000 acres of public lands have been withdrawn and turned into forest reserve. Some of this is suitable for growths, but a great deal is altogether useless. Now, one of the laws regulating the reserves, provides that any man owning land within the reserve may exchange it for other lands. It was put in because the settlers had made settlements and spent their money, and they should be reimbursed. But the law was used by speculators to feather their own nests. They owned lands within the reserves, and of course manipulated them so that they could get much more valuable lands in the exchange with the government. The railroads, which own large tracts of the forest reserve lands, could have made millions of dollars through this sort of speculating, but the government has made arrangements with these people, and in a recent exchange with the Santa Fe railroad the corporation only got such lands in exchange as were equivalent to those it held.

**FIRE THE GREAT DANGER.**—"Again, they say the government has not withdrawn lands suitable for reserves. Well, where there are such large tracts of land set aside it is impossible to get it all suitable land, but on the whole the government has been very careful in its selection. It is not a question of water in these reserve selections. The fire is the great limiting quality with which we have to deal. The fires have denuded the lands and changed the aspect of the whole landscape. All over California you see large areas of chaparral, with only an occasional tree and a few burned stumps, where once forests thrived. These lands can be reforested, and that is why they have been included in the reserves. We must remember that the consumption of the forests is far outstripping the new growths. I find also that there is an idea that the only lands that once bore timber are fit for a reserve, but this is not true. There is also land which would have carried forest growth if it had not been repeatedly swept by fires.

**RESERVES AND GRAZING.**—"The objection that has created more difficulties than any other is that made by the live stock men. In California you have wisely denied the lands to the sheep men. But even so last year a million sheep and a half million horses and cattle were grazed on public lands. It is not the purpose of the government, however, to destroy the stock raising industry, but to preserve it against destruction. The sheep raisers tell us that the grazing of the public lands is a protection to them, as it destroys all inflammable material, but this is not so, for the danger from fires is just as great as ever.

"Another objection to the reserve is that it will drive farmers and settlers out of the country. I don't believe that at all, as I said before the land should be given to the dominant industry.

"I am not an advocate of grazing lands for reserves, because they ought to be used for agriculture; and I believe that all agricultural lands inside the reserve should be used exclusively for agricultural purposes.

**ASSESSABLE PROPERTY.**—"Another objection is that the reserves will diminish the taxable value of the property of the county within which they lie. But if the lands are completely denuded of their growths is not their taxable value destroyed also? In Michigan the government has been trying to sell 1,000,000 acres of land at 10 cents an acre. It is burned over and useless. Now if it were turned into a reserve and cultivated how much greater would be its worth and taxable value? It is the same in California—some people advocate that flash in the pan policy without thinking. With the exhaustion of the supply of timber comes the inevitable loss. In northern California they have their valueless acres of chaparral, which can never be taxable unless something is done for it. Those of you who have seen the country around Shasta have seen examples of forest destruction.

**RESERVES DO NOT INJURE MINING.**—"We come now to a very important objection—that the mineral industry of northern California will be abolished by the advent of the forest reserve. In the first place the miner has just as much right to work inside the reserve as outside. The only difference is made in the cases of mining corporations which require a large



amount of lumber. The forest reserve will not affect the California miner at all. Take the case of the miners in the Black Hills of Montana. From being violently opposed to the reserves they became warm supporters of them and petitioned to have 1,000,000 acres added to the original amount. This was all because they waked up to the fact that there were more mineral lands than forests, and that they needed the forests to protect the water supply, and they needed the preservation of the forest to allow the cutting of suitable timber for mining in the future.

**POWER PLANTS AND RAILWAYS.**—"Some fear that power plants and railroads will be kept out of the country and development checked. Now there is nothing in the laws governing the reserves that will prevent the development of any such industry. The law is framed to cover just such cases—the machinery is all at hand.

"If I've been successful in showing what I have in mind, I have described the forest reserve for the people of the community in which it lies. And one of the most striking things is the popular attitude of the Pacific coast people, and those of California especially, on the forest reserve question. Their first attitude was direct opposition, then suspicion, then grudging toleration, then support—a perfectly wonderful change. There is no State where as a whole the sentiment is so strongly in favor of the reserve as California.

**FORESTRY AS A PROFESSION.**—"The inducements for a young man to enter upon a profession depends on the opportunities which it offers, the economic conditions and his special fitness for the work. In the United States there is a great demand for foresters.

"The first concept must be an idea of the wideness of the field and the relation it bears to a vast number of other economic questions, transportation and mining. A man, before he narrows himself down to forestry, must first have a knowledge of auxiliary sciences, such as chemistry, botany, zoology, physics, surveying and law.

"A man is first tested under foresters as to his personal qualities, chief of which is observation. All experience and knowledge of books is useless without observation. It is only through observation that he can learn to diagnose present needs and reason out what will be the needs of the future. A day at observation in the woods is of the hardest work, because observation is a mental strain. If I were advising a young man I would say, 'Cultivate your powers of observation.'

**REQUIREMENTS.**—"The first thing for them to do is to study silviculture, which consists in understanding the effects upon trees of light and shade, moisture and dryness, the germination of seeds, where they come up, and the struggle of young plants.

"Closely allied to forestry and more intimately related to it than botany, is lumbering. There has been an idea throughout the United States that botany is the first thing prerequisite to a study of forestry. It is necessary, but the forester must know the quality and kind of lumber, grading of logs and transportation. This is summed up in the scheme for handling a forest which also requires a knowledge of what timber is on the ground, how fast it is growing, the product per acre and how it is best grown.

"Men entering upon the profession of forestry must have physical hardiness and self-reliance, because in the first place there are severe requirements on the physical system, and in the second place he is frequently thrown upon his own responsibility. He must love hunting and fishing, as these sports take him into places where he would not otherwise go.

**THE DEMAND FOR YOUNG MEN.**—"People think forestry will make large demands for men, but I believe we must expect that public interest will diminish, and after a time increase. The work must be taken up with the understanding that there are parts of the road which are not easy. If a man fitted for the work takes it up and then drops it he regrets it, but one who is fitted and holds to it is never sorry. Men in this profession will make as much money as university professors, but can never succeed financially like the leading doctor, lawyer, or mining engineer.

"Mature men and well prepared men are needed in forestry. They have to deal with many hard questions which come up from time to time. A man should first have a college training in the auxiliary sciences and then specialize in forestry in post graduate work. I want good men in forestry. We haven't enough, but I don't want any one to take it up with a misunderstanding of the hardships. I would not be in forestry and would not want you to go into it unless it were well worth our while.

**THE OPPORTUNITIES.**—"The territory west of the Mississippi river is 71% of the territory of the United States, and this immense tract of land means forestry. Much of the country is irrigated, and to conserve the water supply the slopes must be covered with forests and chaparral. The present consumption of timber would eat up the supply in a comparatively short time, hence forestry must come in to protect the timber lands. The supply of men to do the work is inadequate.

"Private owners of forest lands, the States, which own less, and the United States Government, with

its 65,000,000 of acres of forest reserve, are in need of competent men to regulate the cutting of timber. The Bureau of Forestry has asked for men, but much work is left undone because competent Americans cannot be found to do it. At present there are demands from Hawaii and Wisconsin for men to take charge of forestry work at large salaries, but useful men must be taken from their present positions to satisfy this demand. When these men are sent out there are none to take their places. There are 5,000,000 acres of forest lands untouched because foresters are not available.

"Men are holding cut-over lands for a second cutting and need men to look after them. The Southern Pacific Company is holding their lands and establishing forestry.

"The Philippine islands will soon be demanding a large number of foresters. Dense forests, rich in the value of timber, and growing thousands of feet per acre, cover these islands. These forests are comparatively untouched except along the coast, where they grow down to the water's edge. The lumbering interest is waiting the introduction of machinery and foresters. Men will not go as there are ample opportunities in this country. They make a mistake and the scarcity of men has left vacant the ten positions now to be filled. This is one of the facts which make it important that a school of forestry should be established on the Pacific coast.

"Any irrigated country is a guarantee of interest in forestry. The great coming industry of the West is irrigated agriculture, and the demand for forests to conserve the water supply will grow indefinitely. Where will the foresters be obtained?

**AMERICANS PREFERRED.**—"The question arises, Why not employ men from abroad? There is a greater supply of foresters in Europe than is needed and they want to come to America, but, my reply is, We need men trained here, not trained in European methods exclusively, but men with American ideals dealing with Americans, and trained in America. No foreigner has had a chance, and I believe my choice was wise.

"Where shall we look for trained men? There are schools which try to teach forestry, but only two have established departments of forestry. These are the University of Michigan, with a school just established, and Yale. The product of these schools is likely to be required over and over again in the next few years. The University of Nebraska has one man to teach forestry.

"If a man is going into forestry he must have a thorough training, and it must be a professional training. A school established on the Pacific coast must turn out men ready to take up any work in forestry. At present we need a force of really trained men. There is an idea prevalent in America that any man may do forestry work, and this idea stands in the way of establishing forestry schools. Though the plans for carrying on work must be simple and applicable to men who have not studied much, yet the men who make the plans must be trained in order to get the point of view.

"I deprecate the establishment of a school anywhere without the highest ideals. Any school to be a success must be established along the lines of ideal work. It is better for the young men of the West to go East for their training than to have a school which will not turn out the very best prepared men. There is no question but that school will come. Facilities for establishing a school at the University or at Stanford are excellent. The school needs not only lecture room, but also the forest for practical work, and California furnishes a place where both may be had."

## THE POULTRY YARD.

### California Conditions and Methods.

**TO THE EDITOR:**—The poultry business in this State is continually enlarging. The observing traveler will be impressed with this fact as he makes his way through the different counties. "More and better poultry" is evidently the watchword of many persons who have awakened to the fact that there is money to be made in the business. Some farmers have come to the conclusion that there is little or no money to be made in raising grain or striving for better things. They are branching out into poultry raising, satisfied that it is attended with profit. For has it not thus been demonstrated by their neighbors?

We have noted that not a few persons who are devoting considerable time to this pursuit are young men—sons of farmers who came here in early days. As a general thing the young farmer is apt to be up to date in his ideas and methods of working. He is willing to utilize all appliances of recent invention whereby the heavy work of the farm is minimized, and is quick to see that the finest stock obtainable, the purest bred poultry, is far more profitable than the breeds so long raised in all parts of this State.

Never before has there been so much interest manifested in the raising of the very best by our farmers, whether it be dairy or beef cattle, draft or road horses, poultry or fruits of all kinds. Better meth-

ods of cultivation, better machinery for accomplishing the end desired, more intelligent thought and careful planning on the part of the husbandman, make the farmer of to-day in this country the peer of those to be found in any portion of the globe. More than that—we lead.

A recent trip to Petaluma and vicinity, attended with much surprise and with great profit, demonstrated the profitability of poultry raising on a large or small scale. Here, on every hand, from the nurseries of the youngest chicks to the laying quarters of the mature laying fowls, flocks ranging from 100 or 200 to 9000 are object lessons, the study of which would well repay any searcher after knowledge. It would profit such to travel far in order to investigate, at close range, the methods adopted by the grand army of poultrymen there located. The stranger finds these industrious citizens courteous, ready, at any time, to impart what information they have gained, and are not at all jealous lest others, by engaging in the industry, or by enlarging their borders, should overdo the business.

Petaluma is the poultry center of the State, and bids fair to so remain. Does the reader say this is all an accident? Well and good. But there are numerous other localities in any of the bay counties as well adapted to poultry raising as is Petaluma and vicinity, though the good people of that place might be slow to acknowledge it.

In the locality above named it has been clearly demonstrated that this occupation can be made very profitable in this State, which should, by reason of its wonderful climate, take the lead in this rapidly growing business. Residents of other sections of the State are awakening to the fact that much money can be made in this avocation, and the observing traveler notes that this increasing interest is confined to no one locality. "Better poultry and more of it," seems to be the watchword of very many persons who strive to keep abreast of the times.

Much of the poultry, in all sections of our State, is in the heavy moult at the present writing. Nourishing food and plenty of it is needed to carry the birds through this trying period successfully. Unless they are well fed and well cared for few eggs will be gathered from the flock, or none at all—quite a general complaint of late on farms here and there. Some flocks are producing from 33% to 50%, which is not a bad record for September. It will be found profitable to give the hens a mild tonic, which will the sooner enable them to discard their ragged clothes for more tidy garments.

In regard to this matter a writer in a recent magazine says: "If you wish to make your hens moult quickly and with the best results, keep in view that the feathers contain lime, nitrogen and some oily matter, but they are mostly mineral and nitrogenous in composition. But after the feathers are thrown off then the foods should be rich in nitrogen and lime. Hence sunflower seed, linseed meal, clover meal, lean meat and cut bone are excellent. A tablespoonful of sulphur in the food of 20 hens, three times a week, will assist, as feathers contain sulphur also. No kind of feeding will force a hen to throw off old feathers and put on new at once. Feathers do not come in a day; they must grow; they do not all appear at the same time. You can assist growth by judicious feeding."

The following from the Farmer's Review is well worth quoting:

"Only in recent years has poultry keeping taken its place among the recognized industries, as the bulk of the world's enormous supply of poultry and eggs has hitherto come from numerous small producers. The number of people who make a living out of the business are comparatively few compared with the small producers, but they are increasing rapidly, and to one who is naturally adapted to the business it is the most pleasant and profitable employment upon which he can enter. It is true that many have failed when they tried to keep poultry in large numbers through lack of ability or because of bad location, but that is not saying that there is no money in the poultry business. It all depends upon the man and his ability to make money. The poultry business is not one for children or invalids, but men and women are both making a success of it and find it a profitable vocation. To make the business a success a person must be an expert in the management of fowls. While it is true that many have started before they became experts and made a success of it, they have been willing to start in a small way and grow in the business as their knowledge of the business increased."

It is none too early to make preparations for the coming season. In fact, considerable hatching is now under way. "Do you not think it rather late in the season to incubate eggs?" was asked an acquaintance recently. "We do not call this late, but early," was the reply. Some of the wise ones at Petaluma, after years of experience, prefer to cease raising chicks in the early spring and to get out a few hatchlings in August and September. Pullets hatched in the months named will, if well cared for, be in excellent shape for laying another fall, having laid their first litter and passed through the moult.

Plans for new incubator and brooding houses may well be considered now by the beginner and those who intend to enlarge their plants. Take time by



the forelock. Be prepared for business when the time comes. To be forehanded is far preferable than to be behind in your work. Yet not a few are caught every year with large hatches of young chicks on hand with inadequate brooding appliances.

Napa. A. WARREN ROBINSON.

## THE STOCK YARD.

### State Fair Cattle Awards.

The list of awards made at the Fiftieth Annual State Fair of California was not tabulated in time for its appearance in full in this week's issue, but we give below a complete list of premiums awarded to cattle breeders. The awards in other departments will be published next week. The cattle exhibits were especially creditable. A few previous State Fairs have boasted of a larger number of herds and individuals, but the fair grounds have never before known such high types as were shown this year. Following is the list:

Shorthorns, open, class I—Best bull, 3 years old and over—Joe Marzen's Blythe Victor first, and the California Pastoral and Agricultural Company's Davenport Duke second; best two-year-old bull, John Spark's Nonpareil Alamo first, Estate of William H. Howard's Royal Fashion second, and Joe Marzen's Marshall's Combination third; best bull between 18 months and 2 years, Estate of William H. Howard's Chief of Valley View first, and King Spicey XXXVIII second, J. H. Glide's Chief of Valley View third; best bull between 12 and 18 months, Joseph Marzen's Emperor first, California Pastoral and Agricultural Company's McCollough second, and F. H. Murphy's Bearmont VII third; best bull under 12 months, Estate of William H. Howard's King Spicey L first, King Spicey LIII second, and Joe Marzen's Humboldt H. Victor XLI third; best cow 3 years old and over, Joseph Marzen's Amelia B. David XIX first, Estate of William H. Howard's Ramona X second, and Mystery XXIX third; best cow 2 years old, Joseph Marzen's Humber Rose first, Estate of William H. Howard's Dandelion second, and Joseph Marzen's Meadow Maid XVI third; best cow 18 months and under 2 years old, California Pastoral and Agricultural Company's Beauty first, Estate of William H. Howard's Spicey Hopeful II second, and the California Pastoral and Agricultural Company's Wyndhault II third; best cow 12 months and under 18 months, Estate of William H. Howard's Spicey Hopeful III first, P. H. Murphy's Amethyst second, and Bracelet third; best cow under 12 months, Estate of William H. Howard's Miss Harold XXXIII first, Spicey's Ramona II second, and Hopeful LXXVI third.

Best old herd—Joseph Marzen's Blythe Victor and four others; Estate of William H. Howard's Royal Fashion and 4 others, second, and the California Pastoral and Agricultural Company's Davenport Duke and 4 others, third.

Best young herd—Estate of William H. Howard's Chief of Valley View IV and 4 others first; King Spicey XXX and 4 others, second, and the California Pastoral and Agricultural Company's Baron II and 4 others, third. Best get of sire, Joseph Marzen's 4 animals first; Estate of William H. Howard, second, and California Pastoral and Agricultural Company, third. Best producer of dam, Estate of William H. Howard, first and second, and Joseph Marzen third. Best champion bull, three-year-old and over, Joseph Marzen's; two-year-old, John Spark's Nonpareil Alamo. Champion bull under 2 years old, Estate of William H. Howard's Chief of Valley View IV. Champion cow over 3 years old, Joseph Marzen's Amelia B. David XIX. Best champion cow 2 years old, Joseph Marzen's Humboldt Rose VII, and best champion cow under 2 years, California Pastoral and Agricultural Company's Beauty.

Shorthorns, State class—Best bull, 3 years old and over, J. H. Glide & Son's Nevada Boy XXXIX first, and California Pastoral and Agricultural Company's Davenport Duke, second. Best two-year-old bull, Estate of William H. Howard's Royal Fashion, first, and California Pastoral and Agricultural Company's Kenmore, second; Spectator, third. Best bull, 18 months old and under 24 months, Estate of William H. Howard's Chief of Valley View IV, first; King Spicey, XXXVIII second, and J. H. Glide's Chief of Valley View V third. Best bull, 12 months and under, California Pastoral and Agricultural Company's Sexton's Lad, first; McCollough second and Young Robert II third. Best bull 12 months, Estate of William Howard's King Spicey L first; King Spicey LIII second, and P. H. Murphy's General Lee IV third.

Cow, 3 years old and over—First, Estate of William H. Howard, Ramona X; second, Estate of William H. Howard Mystery XXIX; third, California Pastoral and Agricultural Company, Coptic.

Cows, 2 years old—First, Estate of William H. Howard, Dandelion XXVIII; second, California Pastoral and Agricultural Company, Little Heroine; third, Estate of William H. Howard, Hopeful LXIV.

Cows, over 18 and under 24 months—First, Cali-

fornia Pastoral and Agricultural Company, Beauty; second, Estate of William H. Howard, Spicey's Hopeful II; third, California Pastoral and Agricultural Company, Windhault II.

Cows, over 12 and under 18 months—First, Estate of William H. Howard, Spicey's Hopeful III; second, P. H. Murphy & Sons, Amethyst; third, P. H. Murphy & Sons, Bracelet XVI.

Heifer calf under 12 months—First, Estate of William H. Howard, Miss Harold XXXIII; second, Estate of William H. Howard, Spicey's Ramona II; third, Estate of William H. Howard, Hopeful LXXVI.

Exhibitors' herd—First, Estate of William H. Howard, Chief Valley View LV and 4; second, Estate of William H. Howard, King Spicey XXX and 4; third, California Pastoral and Agricultural Company, Baron II.

Get of sire—First, Estate of William H. Howard, King Spicey XXX and 4; second, California Pastoral and Agricultural Company, Davenport Duke and 4; third, P. H. Murphy & Sons, Baron Gwynne and 4.

Produce of dam—Estate of William H. Howard, Mystery XXVIII and 2, first; Estate of William H. Howard, Hopeful XLVIII and 2, second; P. H. Murphy & Sons, Agatha and 2, third.

Bull, 3 years and over, Perfection II; bull, 2 years old, Beau Donald; bull over 12 and under 18 months, first, Gem Alamo; second, Joseph Marzen, Lovelocks, Nev., Humboldt Duke XXXII, second; bull calf under 12 months, Lee Alamo; cow, 3 years and over, Phoebe Alamo; cow, 2 years old, Lady Hesiod XXXIX; heifer 18 and under 24 months, Diste Alamo; heifer, 12 and 18 months, Dawn Alamo; heifer calf, under 12 months, Miss Perfection; exhibitors' herd, Perfection II and 4; breeders' young herd, Gem, Alamo and others; get of sire, Perfection II and 4; produce of dam, Phoebe and Louise Alamo; champion bull, 3 years and over, Perfection II; champion bull, 2 years old, Gem Alamo; champion bull, 2 years old, Beau Donald XLI; champion cow, 3 years old and over, Phoebe Alamo; champion cow, 2 years old, Dady Hesiod XXXIX; champion heifer, under two years, Miss Perfection; all by John Sparks, Reno, Nev.

Class VI—Holstein-Friesian. Bull 3 years old and over. First, J. W. Rea, San Jose, Brigadier of La Siesta; second, Mrs. M. D. Gubbay, San Jose, Michthildus of La Siesta. Bull, 2 years old, first, Gubbay's The Angelus; second, Rea's Cossack of La Siesta. Bull, 1 year old, first, Rea's Prince Mercedes Julip Pietertje; second, Gubbay's Loyal Knight of La Siesta. Bull calf, 6 months and under 1 year, first, Rea's (unnamed); second, Gubbay's Earl de Kol of La Siesta. Bull calf, under 6 months, first, Gubbay's (unnamed); second, Rea's (unnamed). Cow, 3 years and over, first, Gubbay's Gaiety of La Siesta; second, Rea's Cream Pot. Cow, 2 years old, Rea's Cleopatra Vendome, first; second, Gubbay's Hight Yulab VII. Heifer, 1 year old, Rea's Midnight de Kol, first; second, Gubbay's Lill de Kol. Heifer calf, 6 months old and under 1 year, first, Rea's, not named; second, Gubbay's, not named. Heifer calf, under 6 months, first, Gubbay's, not named; second, Rea's not named. Exhibitors' herd, first, Gubbay's Michthildus of L. S. and 4; second, Rea's Brigadier. Breeders' young herd, first, Gubbay's Earl de Kol of L. S. and 4; second, Rea's Prince Mercedes Pietertje and 4.

Get of sire—First, Mrs. M. E. Gubbay; second, J. Rea. Produce of dam, first J. W. Rea; Second, Mrs. M. E. Gubbay. Champion bull over 3 years, James W. Rea's Brigadier of La Siesta. Champion bull 2 years old, Mrs. M. E. Gubbay's The Angelus. Champion bull under 2 years, James W. Rea's Prince Mercedes Julip Pietertje. Champion cow 3 years old and over, Mrs. M. E. Gubbay's Gaiety of La Siesta. Champion cow, 2 years old, James W. Rea's Cleopatra of La Siesta. Champion cow under 2 years, James W. Rea's Midnight de Kol.

Class VII—Jerseys—Bull 3 years old and over, first, James Horsburg, San Francisco, Prince of Santa Ysabel; second, Alex Chisholm, Jacinto, Lord Marigold. Bull 1 year old, first, Alex Chisholm, Jacinto, Coconino; second, Thomas Waite, Perkins, Clayboy. Bull calf over 6 and under 12 months, Alex Chisholm, Jacinto, Sunny Jim Marigold. Bull calf under 6 months, Alex Chisholm, Jacinto, Geronimo Marigold. Cow 3 years old and over, first, Alex Chisholm, Jacinto, Dot's Violet W.; second, Thomas Waite, Perkins, Race W.; third, Thomas Waite, Perkins, Little Lucy. Cow 2 years old, Thomas Waite, Perkins, Beauty W. Cow 1 year old, first, Alex Chisholm, Jacinto, Violet Dot Pedro; second, Alex Chisholm, Jacinto, Bertha's Queen Marigold; third, Alex Chisholm, Jacinto, Beauty Marigold. Calf 6 months and under 12 months, Alex Chisholm, Jacinto, Lulu Marigold. Calf under 6 months, first, Alex Chisholm, Jacinto, Chico Marigold; second, Thomas Waite, Perkins, Lillian W.; third, Thomas Waite, Perkins, unnamed. Breeders' herd, Alex Chisholm, Jacinto, Sunny Jim Marigold and 4. Get of sire, Alex Chisholm, Jacinto. Produce of dam, first, Alex Chisholm, Jacinto; second, Thomas Waite, Perkins; third, Thomas Waite, Perkins. Champion bull 3 years old and over, James Horsburg, San Francisco, Santa Ysabel. Champion bull under 2 years, Alex Chisholm, Jacinto, Sunny Jim. Champion cow 3 years

old, Alex Chisholm, Jacinto, Dot's Violet W. Champion cow under 2 years, Alex Chisholm, Jacinto, Violet Dot Pedro.

Class VIII—Best cow 3 years old and over, George Bement, Melrose, Libby B. Champion cow 3 years and over, George Bement, Melrose, Libby B.

Class XI—Grand sweepstakes, beef breeds, aged herd, first, John Sparks, Reno, Nev., Perfection III and 4; second, Joseph Marzen, Lovelocks, Nev., Blythe Victor and 4. Young herd, first, John Sparks' John Alamo and 4; second, E. S. Howard, San Francisco, King Spicey and 4.

Class XII—Grand sweepstakes, dairy breed, aged herd, Mrs. M. E. Gubbay, San Jose, Michthildus of La Siesta and 4; second, James W. Rea, San Jose, Brigadier of Verdome and 4. Young herd, first, Alex Chisholm, Jacinto, Sunny Jim Marigold and 4; second, James Rea, San Jose, Prince Mercedes Julip Pietertje and 4.

### Pure Bred Stock Breeders' Association.

There was organized during the State Fair a new association which may be expected to exert considerable influence in promoting the higher live stock interests of the State.

The meeting was enthusiastic. Those present were: E. W. Howard, N. A. Chisholm, Professors Carlyle and Major, President Benjamin F. Rush of the State Board of Agriculture, H. B. Eckle, F. I. Hodgkins, Isaac Bird, G. W. Thomas and Guy H. Miller of Riverside, H. L. Bishop of Fresno, State Veterinarian Dr. C. H. Blemer, Frank H. Burke, James Whittaker, G. C. Owens, J. H. Glide, Jr., James Irvine of Orange county, George T. Coles of Lompoc, Dr. J. T. Sullivan of Suisun, Henry Hawson and Dr. F. E. Twining of Fresno, and others.

ORGANIZATION.—The selection of president fell upon E. W. Howard of San Mateo, and for secretary N. A. Chisholm of Jacinto, Glenn county, was chosen, both being by acclamation. President Howard appointed as the committee on by-laws and constitution Fred H. Burke of San Francisco (chairman), Judge Peter J. Shields, Guy H. Miller, Isaac Bird of Merced, and Professor E. W. Major of the University of California.

EXHORTATION.—Encouraging addresses were made by Prof. W. L. Carlyle of the University of Wisconsin, judge of the cattle exhibits at the State Fair; by Judge Shields, Guy H. Miller, Fred H. Burke and others. Prof. Carlyle especially dwelt upon the unparalleled advantages of California as a cattle-raising State, from a climatic point of view, and stated emphatically that he believed the time was not far distant when the Golden State will lead the States of the Union, particularly in the production of swine. He earnestly recommended the organization of the proposed association for the benefit of the stock industry, and as a power which will be of inestimable value in securing recognition from the Legislature in the interests of the cattle and allied businesses. He recommended that pressure be brought to secure aid for the establishment of a live stock department in the State University, to the end that the boys and girls of the State shall be educated to take an intelligent interest in such lines of useful work.

POSSIBILITIES.—Judge Shields spoke of the magnificent possibilities ahead of the State, and the good to result from the intelligent prosecution of the work contemplated by the proposed association. He urged the hearty co-operation of stockmen in all parts of the State, and indorsed the suggestion that a live-stock department should be added to the State University.

H. B. Eckle of Yolo county referred to the bill passed at the last Legislature, but which failed to secure the Governor's signature, for the establishment of a dairy school, and said Yolo county will doubtless stand ready at the next Legislature to make a similar offer of 160 acres of land for this purpose.

A COMING SHOW.—Other speeches on the desirability of encouraging the livestock industry by breeding pure-bred animals of all classes were made, and it was announced by Isaac Bird of Merced that in connection with the proposed fat stock show in San Francisco during the winter, five or six breeders have already expressed willingness to take part by sending a carload of cattle each.

DIRECTORS' MEETING.—At the first meeting of the board of directors an executive committee was appointed to attend to the urgent business that may come up, to further the campaign for membership, and generally to transact the business in the interim between meetings of the board. The committee consists of Dr. Charles H. Blemer, State Veterinarian; J. H. Glide, Jr., and James Whitaker. J. H. Blemer was appointed a committee to make arrangements for the fat stock show it is proposed to hold in San Francisco in March, and was authorized to interview the butchers and others interested with a view to ascertaining what support such an undertaking would receive.

The next meeting of the Association will be held on December 15th at the Palace Hotel, San Francisco.



## Agricultural Review.

### ALAMEDA.

**A BUNCH OF THOMPSON'S SEEDLESS.**—Livermore Herald: W. B. Harrington brought to this office Tuesday a bunch of Thompson's Seedless grapes which weighed two pounds and seven ounces. For this variety the size and weight may be regarded as phenomenal.

### BUTTE.

**SPLendid PEACHES.**—Oroville Register: Jacob Covey has a tree of orange cling peaches that bore some very large fruit this season. A dozen of the peaches each weighed more than nineteen ounces, while the whole lot on the tree averaged eighteen ounces.

**TURKEY CROP LIGHT.**—Bee: Thanksgiving dinners are apt to come high this year if the turkey crop of Butte and adjoining counties is an index. Reports from the large turkey ranches where the birds are raised by the hundreds and even thousands say that the spring was so inclement that a large percentage of the young, which are very tender at an early age, died, and the flocks are smaller this year than usual. One of the largest flocks in this county is that of D. M. and Joseph Tyler on their ranch near the end of the Durham lane, on the Oroville and Chico road. They have about 1000 turkeys, and the flock is now doing well, being pastured on stubble.

### FRESNO.

**PROFITS IN DAIRYING.**—Selma Enterprise: During July \$14,000 was paid out by the local creamery. The output is 1850 pounds a day. The creamery has skimming stations at Traver, Conejo and Laton. Manager Jesse Durham estimates that about 2000 cows are milked to supply the creamery with sufficient butter fat to make the present output. He says the average herd pays from \$5 to \$6 a cow a month, but in many instances the profits are much larger. George Drew has two cows that paid him \$11.50 apiece last month. J. W. Elkhorn has sixteen cows that netted him \$8.60 apiece in July. Oscar Duke has a champion herd also, as his thirty-five cows brought in an average of \$8.17 each during July.

**PEANUTS.**—Reedley Exponent: Emery Treaster brought to town Monday a peanut plant with fifty peanuts dangling from it. Mr. Treaster has an acre planted to peanuts, which he figures will net him \$75 this season.

### KINGS.

**THE PRUNE HARVEST.**—Hanford Sentinel: The prune growers have about completed their harvest. The crop is reported to be short, but the quality is better than last year. The prices for prunes run from \$60 to \$65 per ton.

**MAKES MONEY OUT OF BEES.**—G. W. Rich, one of the successful bee men of Kings county, has in his apiaries about 300 stands, most of which belong to him. He says he has already extracted eleven tons of honey from three extractions, and the fourth will increase his harvest to more than fourteen tons for the season.

### LAKE.

**CANNED BEANS.**—Republican Press: The bean crop of Lake county is rapidly developing into one of the most prominent products of Lake county. Many acres of new land were planted this year and the crop as estimated by Warehouseman Lucas will be over 500,000 cases of two dozen cans each. The Lake county string beans are recognized as the best brand on the market and command a good price. The canneries furnish employment to a large number of hands during the busy season, and are the means of getting much money into circulation.

### LOS ANGELES.

**SHIPPING ORANGE TREES TO SOUTH AFRICA.**—Covina Argus: R. M. Teague of the San Dimas Nurseries received an order last week for two carloads of orange trees to be shipped to Johannesburg, South Africa, this fall. While several small consignments of orange trees have been sent to South Africa by the various nurserymen of southern California, this is the largest order for trees from that country. These trees will be stripped of all foliage and packed in moss in boxes, and the two cars will be sent to the Atlantic coast by express, connecting there with the fastest steamer which goes to South Africa, the route being left entirely with Mr. Teague, who may possibly send them via England.

**FROM LEMONS TO ORANGES.**—At a meeting of the stockholders of the Lemon Growers' Association of Glendora, it was decided by unanimous vote of those present to close the packing house for the present and that the members of the Association take stock in the San Dimas Lemon Association. For the past few years the lemon growers of Glendora have

been cutting back their trees and budding them to oranges, and, as a consequence, the lemon output has been greatly diminished, not more than thirty carloads having been shipped this season.

**GLENDORA CITRUS ASSOCIATION.**—At the annual stockholders' meeting of the Glendora Citrus Association the following were elected directors: W. J. Cox, president; G. G. Matthews, vice-president; W. R. Powell, secretary; J. H. Hommel and J. J. West. The Association has shipped during the past year 3'8 carloads of oranges, and the average returns to the growers have been very satisfactory. In anticipation of a large increase in the crop for the coming season, plans are under way for an enlargement of the packing house.

**FOURTEEN BOXES OF APPLES FROM ONE TREE.**—Pomona Times: C. J. Fox of the Packard Orange Grove tract gathered fourteen boxes of apples from one tree of Rhode Island Greenings on Tuesday. The total weight is 600 pounds. The fruit is large, smooth and perfect. The tree is ten years old. For several years it was carefully trimmed and bore no fruit; for several years past the extremities of the branches were not trimmed, but the inferior ones were cut out to some extent, and each year after this trimming the tree bore liberally. Fruit from this tree last year kept sound till in the spring of this year.

**WINE GRAPE PRICE.**—The winery men at Anaheim have agreed to \$14 to \$22 per ton for this year's grapes.

**WOOL SALE.**—The San Clemente Wool Co., of which Judge S. C. Hubbell is president and general manager, has transferred its business and property to a company formed by C. T. Howland, a Los Angeles attorney, and Frank Henry and Oscar Werner. The company owns 12,000 to 15,000 sheep on San Clemente island, which is about the size of Catalina, and is leased from the Government for a term of years at a nominal rental.

### MADERA.

**BIG LAND SALE.**—Modesto Herald: Several Modestans and former Modestans who have been farming on the Sharon estate lands in Madera county for years have lost their leases and have acquired or are looking for new lands. The Sharon lands, aggregating 28,000 acres, have been bonded to a British syndicate, at \$18 per acre, it is said, and a large payment has been made on account. If report is to be believed, the syndicate will turn the property into a stock range.

### MONTEREY.

**SUMMER FALLOW.**—Salinas Index: Jolon appears to be the banner wheat raising district of Monterey county this season, the yield on summer fallowed land being sixteen to eighteen sacks (about forty bushels) of first-class milling wheat to the acre. The Jolon farmers have sold their wheat for \$1.50 per cental. It pays to summer fallow.

### RIVERSIDE.

**FAIR GRAIN YIELD.**—Hemet News: The grain upon the land of Dr. J. W. Reese, south of town, has been threshed and has proven to be one of the best yields of wheat in the valley, excepting the irrigated grain raised by the Chase Company at Ethanac. The 170 acres averaged ten and one-half sacks of wheat per acre, weighing 140 pounds to the sack. The land has been rented to Messrs. Tom Chaffin and J. T. Hartshorn and as Dr. Reese sold his share of the grain for about \$1.50, it made the land bring over \$4 per acre rent.

### SAN JOAQUIN.

**VEGETABLES BRING GOOD PRICES.**—A Stockton dispatch states that there is but an acreage of 15,000 acres of potatoes in San Joaquin county this season, against 28,000 last year. Not only is the acreage small, but the yield per acre is from 20% to 25% less. Potatoes are now selling at from 85 to 90 cents a sack, as against 35 to 40 cents last season at the opening. As to onions, prices range from 60 to 70 cents a sack, which is a trifle higher than the previous season, and the prices are better sustained. The acreage this year is about the same as last year, or perhaps a trifle less. There is an unusual condition in the fact that the onions are rather small.

**BEAN HARVEST.**—Stockton Independent: The harvesting of beans has been commenced on the islands. The recent warm weather proved most beneficial, and dried out the pods to such an extent in some places that threshers commenced work. The cool weather earlier in the season permitted the pods to fill out and mature slowly, with the result that the beans are more uniform and of better quality than heretofore, being very plump. They also set well, and the loss from this score will be much smaller than usual. Black eyes are especially fine in quality. Large whites are uniform in size and the yield per vine is larger than in many years.

Samples of the green beans were brought to Stockton, and expert bean men asserted that seldom, if ever, had they seen so many pods on the vines. As the acreage is up to the average, the total yield this year should be fully up to or exceed that of last season.

**ALMONDS AND PRUNES.**—Stockton Mail: The almond yield in San Joaquin county is large, and where orchards have been cultivated and irrigated the quality is fine. On the unirrigated lands the almonds are shriveled and of poor quality. Top prices for well-rounded kernels are being paid. The following prices are offered per pound: Monpareils, 10@10½ cents; I X L, 9½@10 cents; Ne Plus Ultra, 9@9½ cents; Drakes and Langue-docs, 7½@8 cents. M. P. Stein says: "The almond growers are beginning to realize that almonds must be irrigated and properly cultivated if they would have good marketable crops. Unless the trees have plenty of water the nuts will be shriveled. Irrigation and cultivation give a rounded and full nut, which brings a much higher price naturally. The difference in the price more than pays for the expense of putting in a pumping plant. I note that a good many pumping plants are being put in by the farmers and orchardists throughout the county where they are not connected with irrigation canals." Prunes are being harvested and drying has begun. The crop this year is good and the prices are slightly higher than last year. The basis is 2½ cents.

**GRAPES REPORTED \$15 PER TON.**—Lodi Sentinel: Outside buyers are offering better prices for wine grapes than the wineries, the report stating that \$15 would be paid, and there is a possibility of the price going even higher than that. G. Peirano, the Lodi merchant who operated so extensively last year, is again in the field, and he is making the above rates on good grapes.

### SANTA CLARA.

**SHIPMENTS OF GREEN FRUIT.**—San Jose Mercury, Sept. 13: There is little activity among the fruit shippers at present. The Earl Fruit Company is making up their usual carloads of green fruit for the Eastern trade, principally the fall and winter varieties of pears, the Clairgeau, Beurre Hardy, Winter Nellis, Howells and Keifer. The plum and prune shipments have ceased for the season. The crop of Winter Nellis pears is very short and the growers are looking forward to realizing big prices for their fruit. The Earl Fruit Company is also making up their second Australian shipment for Duffy & Co. of Sydney. They will send out 1800 boxes of Beurre Clairgeau, Beurre Dief and Winter Nellis pears.

### SANTA CRUZ.

**THE APPLE CROP.**—Watsonville Pajaronian: The quality of Pajaro apples this season will be first-class, but the size of the fruit will be hardly as large as that of last season. This is largely due, perhaps, to the lack of late spring rains and the prevailing dry summer which followed. The assorting process of apples at the packing houses shows that fruit is very free from worms this season. Systematic summer spraying is responsible for such a condition.

**NOT ALWAYS PARIS GREEN.**—Professor W. T. Clarke says that the further he investigates the cause of the burning and dropping of leaves from apple trees in Pajaro valley the more he becomes convinced that it is not altogether due to Paris green. Trees which have not been sprayed at all are in many cases similarly affected.

### SHASTA.

**PRUNES AND PEARS.**—Bee: One thousand men, women and children are now working in the fruit orchards near Anderson. The prune harvest is on. It commenced last week and is in full swing this week. It is estimated that Anderson orchards will this year produce 1500 tons of dried prunes. They will sell at a 2½-cent basis, or \$50 a ton, bringing the total value of the crop up to \$75,000. The pear harvest is about over, at least so far as the Bartletts are concerned. The Winter Nellis and other late varieties are yet to be picked, but they are relatively of small value. The yield of Bartletts has been large and the price good. Carload lots shipped East have netted the orchardists \$1 a box, or 2 cents per pound.

### SOLANO.

**PURCHASED FIVE THOUSAND EWES.**—Suisun Courier: C. E. Barnhart, the Suisun stockman, is going into the raising of sheep on a more extensive scale than ever. On Monday he returned from Roseville, Placer county, with 5000 ewes. He purchased the same from James Karsburger for breeding purposes. Mr. Barnhart has stocked his Maine Prairie ranch with the sheep.

**SALWAY PEACHES SHIPPED NORTH.**—Republican: Harry Pollard has purchased five or six carloads of Salway

peaches from R. D. Robbins, to be packed on the Hatch ranch and shipped to Washington and Oregon. The fruit is very choice and will, no doubt, find a ready market at good prices in the far north.

### TEHAMA.

**SOME SHEEP.**—Corning Observer: The Finnell sheep passed through Paskenta on Monday. The wooly procession several miles long was quite a sight for the uninitiated Easterner, one or two of whom happened to be in town at the time. With a very few exceptions all the bands are now out. It is estimated that over 100,000 head of sheep summered in the mountains west of here.

### TULARE.

**STRAW FOR FEED.**—Tulare Offer: J. R. Reed, one of our most extensive farmers, is a strong believer in saving grain straw for feed. He has observed that stock will leave the best of feed to nibble at a straw stack, no matter if the stack is four or five years old. To-day people in this section willingly pay 25 cents a wagon load for straw in the field.

**BUNCHES OF SULTANAS.**—C. E. Horsman brought to the Offer office Thursday a bunch of Sultana grapes that weighed 4½ pounds. An hour later E. F. James brought in a bunch of Sultanias that weighed five pounds. These grapes are the product of Orosi Colony and have been forwarded to A. E. Miot, at Visalia, to form part of the St. Louis exhibit.


### YUBA.

**WOOL SALE TO BE HELD OCT. 10.**—Yuba City Farmer: The executive committee of the Sutter and Yuba Wool Growers' Association has decided to hold the fall wool sale this year from the Garrett Co.'s warehouse in Marysville on Saturday, Oct. 10.

### YOLO.

**SAMPLE OF YOLO BARLEY.**—Woodland Democrat: Smith Bayles of Lisbon district brought a sample of barley to Woodland taken from the Joe Silva farm. The land was seeded with 150 pounds of barley and the crop amounted to 220 sacks.

**PRUNES DAMAGED.**—Half of the prune crop was shaken from the trees by a strong northwest wind which prevailed on the 11th inst. Raisins in process of drying were damaged slightly from dust, necessitating dipping. Many fruit and shade trees were blown down.



**Warranted**  
to give satisfaction.

**GOMBAULT'S**  
**CAUSTIC BALSAM**

A safe, speedy and  
positive cure for

Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind Puffs,  
and all lameness from Spavin, Ringbone  
and other bony tumors. Cures all skin  
diseases or Parasites, Thrush, Diphtheria.  
Removes all Bunches from Horses or  
Cattle.

As a **HUMAN REMEDY** for Rheumatism,  
Sprains, Sore Throat, etc., it  
is invaluable.

Every bottle of **Caustic Balsam** sold is  
warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for its  
use. Send for descriptive circulars, testimo-  
nials, etc. Address

**THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.**



**RED CROSS**  
**WIND MILLS**

ARE BUILT RIGHT AND  
WORK RIGHT. HAVE  
BALL BEARING TURN-  
TABLE. SEND FOR  
CATALOGUE. MAILED FREE.

**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

**CHEAP RATES** California, Washington, Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)  
**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles

**OPPORTUNITY FOR PRACTICAL FRUIT MAN.**  
100 acres fruit—peaches, apricots, plums and oranges. Grazing land and good building. Butte county. Owner in Europe. Will employ right man to run it, or lease on shares, or cash rental. Address "Representative," this office.



## THE HOME CIRCLE.

## The New Brother.

Say, I've got a little brother,  
Never thought to have him, nuther,  
But he's here;  
They just went ahead and bought him;  
And, last week, the doctor brought him;  
Wasn't that queer?

When I heard the news from Molly,  
Why, I thought at first 'twas jolly,  
'Cause, you see,  
I s'posed I could go and get him,  
And then, mamma, course, would let him  
Play with me.

But when I had once looked at him,  
"Why!" I says, "My sakes, is that him?  
Just that mite!"  
They said: "Yes," and, "Ain't he cun-  
nin'?"  
And I thought they must be funnin'—  
He's a sight!"

He's so small, it's just amazin'.  
And you'd think that he was blazin'.  
He's so red.  
And his nose is like a berry,  
And he's bald as Uncle Jerry  
On his head.

Why, he isn't worth a dollar!  
All he does is cry and holler  
More and more.  
Won't sit up, you can't arrange him—  
I don't see why pa don't change him  
At the store.

Now we've got to dress and feed him,  
And we really didn't need him  
More'n a frog;  
Why'd they buy a baby brother  
When they know I'd a good deal ruther  
Have a dog?

—Joe Lincoln.

## Willie Wiggles.

Miss Chloe's patience was about exhausted. A semi-wayward brother of twenty-four had called the evening before for her to loan him twenty dollars, suggesting that he might be tempted to do something desperate if he did not have it. She could not do it, and did not, and he left in a rage, after which she passed a nearly sleepless night.

Willie was perpetual motion the next forenoon. She began by saying: "Willie, sit up and keep still, I tell you."

Then it went on until she said with emphasis: "Willie, if you make me speak to you again, you will take your books and go home."

This was an unusually serious situation for Willie, and he sat still—at least, he thought he did—but Miss Chloe's habit of speaking to Willie led her to say:

"I tell you, Willie, to sit still." She would not have said it had it occurred to her at the minute that she had threatened him if she spoke to him again. But the children had not forgotten it.

"Teacher, you said if you spoke to Willie again he must take his books and go home," said Sammy, who was a born mischief maker.

Miss Chloe pretended not to hear, but Sammy kept motioning Willie to go, and so he said: "Teacher, must I take my books and go home?"

With a regretful tone she said, "Yes."

Mrs. Warden was ironing in the kitchen. She was always at work. She could always find something to do to get her up an hour before the rest of the house and to keep her up until all were asleep. She was always tired and she showed it, but did not talk about it.

"What is the matter now, Willie, that you have brought your books home?" "Can't you sit still?"

"I'm 'spelled 'cause I can't sit still, but I can help you. Here, let me take the iron and do the pillow cases and other easy things."

Mrs. Warden let him take the iron while she put on her sunbonnet and went out on the street. By and by she met the superintendent, who raised his hat to her, but she stopped with an emphasis that made him stop. He never liked to talk school on the street, and had a rule never to hear complaints except in the office, from 4 o'clock to 5 o'clock p. m., but there was something in Mrs. Warden's manner that

did not make it easy to postpone the interview. He did not say "speak on," and he did not need to say it, for she spoke right on.

"Willie's been 'spelled."

"That cannot be. I must do the expelling."

"Well, he brought his books home and said he was 'spelled 'cause he didn't sit still. He can't sit still. He can't do it; Willie wiggles."

"I will look into the matter. In what grade is he?"

"In Miss Chloe's room."

Mr. C—heaved a gentle sigh of despair.

"I told you Willie wiggles. He can't sit still any more'n you can stop jiggling your watch chain."

Mr. C—dropped his watch chain as though it were molten metal.

"I didn't mean no offense, but Willie is a good boy. He wiggles just as his biggest brother did, and he's a mighty smart man, and is making lots of money. Willie don't play much. He likes to work. He washes dishes and wipes them and puts them away. He cuts the wood and does chores. He's the best boy I know, but he can't sit still."

"Send him back to school; it will be all right."

"Taint no use. There ain't no place in school for a boy that wiggles. Willie says so. I should think you ought to have one school where boys as wiggles can have something to do aside from sittin' still."

"Here, tell Willie to give this to Miss Chloe this afternoon," and he handed Mrs. Warden this note, which he had scribbled all over one of his visiting cards:

"Take Willie back. He wiggles, and so do I. Give him something to do besides sitting still. Come to my office at 4:30 if you can."—Journal of Education.

## How Animals Swim.

Almost all animals know how to swim without having to learn it. As soon as they fall into the water or are driven into it, they instinctively make the proper motions, and not only manage to keep afloat, but propel themselves without trouble.

Exceptions are the monkey, the camel, giraffe and llama, which cannot swim without assistance. Camels and llamas have to be helped across water, and giraffes and monkeys drown if they enter it. Now and then both of the latter species manage to cross waterways when they are driven to extremities, just as human beings occasionally can keep themselves above water through sheer fright.

A funny, though able, swimmer is the rabbit. He submerges his body with the exception of head and tail. The latter sticks away up into the air and his hind legs make "soapsuds" as he churns the water madly to get away. But with all his awkwardness he is a swift swimmer and is only beaten by the squirrel among the land animals.

The squirrel swims with his heavy tail sunk away down in the water and his head held high. He cleaves the waves like a duck, and a man in a row-boat has all he can do to keep abreast of the swimming squirrel.

One thing that none of the land-living animals does is to dive. No matter how hard pressed a swimming deer, rabbit, squirrel or other purely terrestrial animal may be, it will remain above water. But the muskrat, beaver, ice bear and otter dive immediately.

## A Bargain.

It was in the raspberry season and a freckled, barefooted little girl in a torn blue calico gown came to the door of a country boarding house to sell some berries she had gathered.

"How much are your berries?" asked the mistress of the house.

"They are 15 cents a quart, ma'am. But," she added, in the same breath, "if you don't want them you can have them for 10."

"I don't want them, so you may give me three quarts," replied the lady, merrily.—Woman's Home Companion.

## "Wait, My Sister."

Wait, my sister, patiently,  
When his proud conceit you see.  
Let him think he knows it all—  
That the gems of thought which fall  
From his lips to charm the girls  
Are of wisdom's choicest pearls.  
Calm yourself, though inclined  
To say: "I, too, have a mind."

Wait, my sister; make a rule  
To be wondering and cool.  
When he acts like the whole thing  
Let him see you marveling;  
When his flame of knowledge flares  
Ask him what size hat he wears.  
Keep your learning well behind;  
Don't say: "I, too, have a mind."

Wait, my sister; let him think  
That your petty brain would shrink  
From attempting one wee thought—  
Let him pity your sad lot.  
Let him come and bll and coo;  
Ask to think your thoughts for you.  
Cultivate a pose refined—  
Don't say: "I, too, have a mind."

Wait, my sister, till you land  
Him completely—understand?  
When at last they've tied the knot,  
Show him plainly what is what.  
Introduce him to his fate,  
All his actions regulate,  
All your intellect unwind—  
Give him pieces of your mind.

—W. D. N. in Chicago Tribune.

## Animal Stories.

Max, a Scotch collie dog owned by Elmer E. Pyle of Benton Harbor, Mich., every Sunday morning calls for his master's mail at the postoffice. He learned the trick by watching Mr. Pyle make his way to the delivery window. Max rears on his hind legs with his fore paws on the shelf and barks at the clerk, who understands dog language enough to know that Max is asking for Mr. Pyle's mail. When he receives the package of mail he trots off, holding it firmly between his teeth until he can deliver it into his master's hands. If he meets the carrier on his rounds during the week he stops and barks an inquiry as to whether there is any mail in the pouch for Mr. Pyle, and, if there is, trots off with it to his master's place of business instead of carrying it home. Between Max and Mr. Pyle's horse there is a close friendship. Not long ago the horse pulled a board off his manger and got his head fastened in the opening. Max discovered his predicament, ran for Mr. Pyle, and succeeded in persuading him to come to the relief of his friend.

An exchange prints this tale of a dog's shrewdness: "A family in Tiffin, Ohio, had moved from the old home, but rented the house, furnished throughout, the new tenant being an elderly lady. For some reason the family dog was "let" with the furniture. Now the new occupant of the house liked to sit in a particularly comfortable chair in the parlor; but as the dog was also fond of the chair, she frequently found him in possession. Being rather afraid of the dog, she did not dare to drive him out, and therefore used to go to the window and call "Cats!" The dog would then rush to the window and the lady would calmly take possession of the chair. One day the dog entered the room and found the lady in possession. He trotted to the window and barked excitedly. The lady got up to see what was the matter, and the dog instantly seated himself in the chair."

The Portland Oregonian states that A. M. Holter of Helena, Mont., who is largely interested in the cattle and sheep industry in that State, says that last October a cold spell killed several sheepherders in the Great Falls district, one of whom was taking care of Mr. Holter's flocks. At that time 2 feet of snow covered the range in places and the thermometer indicated 40° below zero. The herder was frozen to death on the prairies while caring for the sheep, and it was three days before his fate was known to his employers. Two shepherd dogs were with him when he died, and one of these stayed with his body while the other attended to the sheep, just as though the herder had been with him. The dog drove them out on the range in the morning and back again at night, guarding them

from wolves and preventing them from straying off. Neither dog had anything to eat during the three days' vigil, so far as could be ascertained; but the 2500 sheep thrived as well, apparently, as though directed by human agency.

## Foods, Digested and Undigested.

In response to a communication urging a diet of dry, hard bread, The Hospital has the following to say about digestible and indigestible foods. The writer of the letter just referred to—Mr. T. Thatcher—states that at the age of sixty-four he had walked 40 miles in one day with no more sustenance than twopenny worth of "hard, dry brown-bread crusts," while a holiday in which he ate the normal quantity of "good" food resulted in a nightmare and subsequent depression. Says The Hospital:

"Naturally a man praises the food which agrees with him, but whether or not a crust of bread be as wholesome for others as it is for Mr. Thatcher, there is no doubt that this plea for food that demands some effort in the eating is not untimely in an age when everybody seems to want to have their digestion done for them. For some people these predigested foods cause an absolute hunger dyspepsia. There is nothing in them to 'stay' the stomach, and the sufferer would probably be better, instead of trying to find something still more digestible, to put himself for a time on a diet of brown bread and haricot beans. Not that either of these is indigestible, though some might think the latter was. It is indeed difficult of digestion, but when digested the food value is high. The really indigestible things are those which have little food value and make the stomach work for no profit; but if it be worth the effort, a food that is difficult of digestion has a certain merit of its own, in that it exercises the organs of digestion. The gourmet dyspeptic who resented the simple strengthening fare we speak of might console himself with the thought that when his digestion was thus strengthened, he would be able to enjoy the pleasures of the table more than ever before; but if in the process of treatment he grew to enjoy the simplest foods, he would be none the loser."

## How Chamois Skins Are Made.

The sheepskin is first washed and the flesh side scraped thoroughly to remove the fleshy fibers; then the wet skins are hung in a warm room for about a week and "sweated." This loosens the wool so that most of it can be pulled out easily. The skins are then soaked in milk of lime to loosen the rest of the wool and to swell the fibers and split them into their constituent fibrils.

After liming, the hair is all removed and the absorbed lime is neutralized with boric or hydrochloric acid, and the skin is split into two thicknesses. The outer or grain side is used for the manufacture of thin, fancy leathers, used in bookbinding; etc., while the flesh side is made into wash leather. It is first drenched, then put into stocks and pounded until it is partly dried, and the fibrous structure has become loose and open, sawdust generally being employed to facilitate the process.

Fish oil is now rubbed upon the skins in small quantities, so long as the oil is absorbed. The moisture dries out as the oil is absorbed, the skins being hung up occasionally and exposed to the air. When the skins have absorbed enough oil they lose their limy odor and acquire a peculiar mustard-like smell, due to the oxidation of the oil. They are then packed loosely in boxes, where they heat rapidly, and must be taken out and exposed to the air to prevent overheating. During this time they give off much pungent vapor and turn yellow. They are then washed in a warm solution of alkali to remove the excess of fat. The oil removed is liberated from the soapy fluid and sold as "sod oil."

The skins are next bleached in the sun, being moistened occasionally with a solution of potassium permanganate, followed by washing with sulphurous



acid or sodium peroxide. The leather is then permanently softened and suited for all purposes of toilet or cleansing uses.

### The Secret of Success.

"What is the secret of success?" asked the Sphinx.

"Push," said the Button.

"Take pains," said the Window.

"Never be led," said the Pencil.

"Be up-to-date," said the Calendar.

"Always keep cool," said the Ice.

"Do business on tick," said the Clock.

"Never lose your head," said the Barrel.

"Do a driving business," said the Hammer.

"Aspire to great things," said the Nutmeg.

"Make light of everything," said the Fire.

"Make much of small things," said the Microscope.

"Never do anything offhand," said the Glove.

"Spend much time in reflection," said the Mirror.

"Do the work you are suited for," said the Flue.

"Get a good pull with the ring," said the Doorbell.

"Be sharp in all your dealings," said the Knife.

"Find a good thing and stick to it," said the Glue.

"Trust to your stars for success," said the Night.

"Strive to make a good impression," said the Seal.

"Turn all things to your advantage," said the Lathe.

"Make the most of your good points," said the Compass.

"Be always on the lookout for a snap," said the Camera.

"Never take sides, but go round when you're wanted," said the Ball.

"Sacrifice yourself, that through you others may succeed," said the Orange.

"Keep a good heart, though you be drawn and quartered for it," said the Oak.—New York Life.

### The Crisis.

The woman fainted, and these are some of the things that the half dozen men in the room with her did, says the Baltimore News:

Two of them made a dash for the dining-room to get water, and fell over each other at the door of that apartment.

One hastened to a neighboring drug store for a mixture of vichy and ammonia.

One appeared suddenly with a glass of whiskey, obtained no one knows where.

In endeavoring to raise the gas two able-bodied and excited masculines put it out and left the party in total darkness for at least a minute, while every one of them fumbled in his pockets for a match.

Four men fanned the invalid with music, handkerchiefs, hats or whatever was to hand.

One held a potpourri jar under her nose, under the mistaken impression that it would be reviving in its effects, though it wasn't.

Another said, "Here, dear," and tried to wipe her brow with the fan he held, instead of the handkerchief that was in his other hand.

Four of the men called her "little woman" and entreated her to be calm.

Two said, "There, there," and looked at each other and asked, haggardly, if she were quite dead.

One put his arm around her tentatively, not sure that the corpse wouldn't sit up suddenly and smite him for his temerity.

Another called the servant man who had appeared in answer to his urgent calls a "blundering idiot" because he didn't understand what was wanted when he was told to "run for the nearest hat without any doctor."

This sounds like quite an army of men, but in reality it was only six active ones who did all these things. And just as they were in despair a woman came into the room. She took

in the situation at a glance and gave her orders coolly. "Let her lie down," said she, "and stand from around her, so that she may get some air. She'll be all right in a minute. Take away that whiskey and let me have the water. There you are."

And there she was, sitting up and blinking.

Yes, it's just as Dr. What's-Her-Name says, men are much more emotional than women.

### Hints to Housekeepers.

If there is a noisy hinge on the door or blind of the summer cottage, treat it with soap and its complaints will be stilled.

Currants mixed with the blackberries, huckleberries or raspberries for pies or puddings will give them an added piquancy and flavor.

Not every one knows that there is a delightful use for green bananas. The Cuban cook shaves them into thin, round slices and fries them in deep fat like Saratoga chips.

In preparing shrimp for salad, take out the intestinal vein, running down the back of the shrimp, and remove any shells which may adhere. Pour boiling water over the shrimps and let stand for five minutes, then drain and cool.

Whatever summer drink you select, says a trained nurse, vichy, soda, phosphate, buttermilk, iced tea, fruit shrub or any other of the "long and soft" variety—be faithful to it. Nothing is so deadly in hot weather as a mixture of beverages.

Butter that does not taste quite as fresh as it should may be greatly improved by putting in a wooden chopping bowl with salt water and thoroughly working it over and over with a butter worker or even a potato masher. Pour off the salt water and substitute sweet milk, working it into the butter in the same way. Finally wash well with clear, cold water.

Children's white dresses often get badly stained with fruit in the summer time. The worst stains may be removed in the following manner: Dissolve a large but not heaping tablespoonful of chloride of lime in an eight-quart pail of water. Soak the garment in the solution, squeezing it occasionally. In twenty-four hours or less, according to the extent of the stain, the garment will be quite clean.

A dusting set for housekeepers comprises cap, sleeves and an apron with pockets. The last-named article is made long and wide, fully protecting the dress. From 12 to 18 inches of it is turned up at the bottom and on the under side. By two rows of machine stitching this is divided into three pockets. These are most useful to receive the odds and ends always found out of place on a dusting tour, as well as the silk, chamois and linen dustcloths for quick use. These serviceable dust sets are made of crossbar linen towelling, colored crash, dainty linens, or, indeed, any other washable material.

For cleansing the inside of cut-glass water bottles or other narrow-necked vessels, a weak solution of hydrochloric acid is better than shot or sand, as these make imperceptible scratches on the surface of the glass, eventually destroying much of its brilliant quality. Care must be taken to rinse the vessels thoroughly after using the acid. A manufacturer of cut glass advises that before using ice cream platters, punch bowls, sorbet glasses, or other pieces designed for frozen foods or chilled beverages, the glass should be allowed to stand for a few minutes in a cold place or held under a jet of cold water.

To make blackberry fritters allow two eggs for one tablespoonful of olive oil, one cupful of flour, half a cupful of cold water, one saltspoonful of salt, one teaspoonful of sugar and one tablespoonful of brandy, with as many berries as the batter will hold. Separate the whites and yolks of the eggs and stand the whites on ice till needed. Beat the yolks till light, then stir in the salt and slowly add the oil, brandy and sugar. Mix thoroughly, stir in

the flour a little at a time and add the water. Beat thoroughly and stand in a cool place for at least two hours. Then add the whites of the eggs beaten to a stiff froth and stir in lightly the floured berries. Fry in deep, hot fat, drain on brown paper, and serve with hard sauce or powdered sugar.

### Domestic Hints.

**STEWED CORN WITH CREAM.**—Scrape the corn from a dozen ears, without boiling first, and add to it a cup of rich cream. Cook for fifteen minutes, seasoning with salt and white pepper.

**TOURNEDOS OF BEEF ON TOAST.**—Cut the fillet of beef into thin slices and then into rounds about 2 inches in diameter. Over each of these rounds sprinkle black pepper, a little salt and some chopped chives. Lay these into a well-buttered saute pan and cook for six minutes, turning once. Serve on rounds of fried bread of the same size.

**BAKED PEACHES.**—Set a dozen ripe freshly pared clingstone peaches in a baking pan, smother them in sugar, dot the sugar liberally with butter, squeeze a lemon over all, and bake forty minutes in a quick oven. Excellent with game or fowl or any highly seasoned meat. Epicures like the peaches liberally dusted with red pepper after baking.

**SOFT SHELL CLAMS FRIED.**—This is a large kind of clam with a brittle shell. Cut off the leathery dark portion that projects from the shell and remove with knife and fingers the beard and string from the inside. This leaves the clam in the ring shape in which they come to market sometimes strung on twine. Put them as they are taken out of the shell into a pan of cold water. When wanted dry them between two towels, dip in beaten egg with a little water in it and then in cracker meal and fry in hot lard the same as oysters. Drain in a colander. Serve piled along the middle of a large dish with a quartered lemon and curled parsley for garnish.

**COQUILLES OF SWEETBREADS, A LA DREUX.**—Cut four blanched sweetbreads into small slices, and stew them in a saucepan with half an ounce of good butter, half a glassful of white wine, and three tablespoonfuls of mushroom liquor. Reduce them for ten minutes, then add a gill of veloute sauce, six minced mushrooms, and two truffles cut the same. Season with half a tablespoonful of salt, a scant teaspoonful of pepper and half a teaspoonful of nutmeg, and finish by adding two tablespoonfuls of good cream or half an ounce of good butter. Fill six tableshells with this; sprinkle them with fresh breadcrumbs; pour a few drops of clarified butter over them, and put them in the baking oven. Brown slightly for six minutes longer and serve on a hot dish with folded napkin.

**PEACH CHARLOTTE.**—Sift together one and one-half cups of flour, a fourth of a cup of sugar and a rounding teaspoonful of baking powder. Work in a good half a cup of butter with the tips of the fingers and moisten to a stiff dough with the yolk of an egg and cold water. Toss on a floured board, pat and roll out and line with the paste a deep floured pudding form. Brush with white of egg, sprinkle with a little flour and fill about two-thirds with peaches which have been pared and cut into halves. Sweeten the fruit, adding to the sugar used a rounding teaspoonful of flour for each quart. Roll out remaining paste, cut into strips  $\frac{1}{2}$  an inch wide and arrange lattice fashion over the top, twisting each strip in so doing. Wet edges of under crust, press edges together and with the thumb and fore finger form into scallops. Bake about an hour in a moderate oven, and dust with powdered sugar and serve warm with cream.

**PARTRIDGES TRUFFLED AND ROASTED.**—Draw two young partridges, wipe them well and singe. Peel five or six raw truffles, cut them in four and season; chop up the peelings and pound them with fresh fat pork, adding to it the cooked partridge livers with two or three pullet livers; season the preparation and press it through a sieve. Melt a quarter of a pound of grated fat

pork, and add to it the cut-up truffles, season and warm up for a few seconds while tossing over the fire, then mix them in with the forcemeat. After this preparation has cooled off, use it to fill partridge breasts and bodies; sew up the openings, truss and cover or else lard them with fine larding pork, fasten them on the spit and roast for fifteen or twenty minutes in front of a good fire, basting over with butter. As soon as they are done sprinkle salt over and remove from the spit; untruss and dress each one on a large crust of bread browned in butter and laid on an oval dish; surround the partridges with sliced lemons only, serving watercress separately, also some clear gravy.

**CHOCOLATE PUDDING WITH CREAM SAUCE.**—Put into a saucepan five ounces of fresh butter, five ounces of powdered sugar and five ounces of cocoa or chocolate, freshly scraped from a cake. Add the yolks of five eggs, beat all thoroughly together with a pastry whip, and after placing the pan on a hot stove, continue to stir with the whip for five minutes longer. Take the mixture from the fire and after beating the whites of five eggs to a stiff froth, add them carefully to the preparation in the saucepan, folding the whole well together with a pastry whip. Butter and sugar six timbal moulds, those holding about a quarter of a cup each being the proper size, and when they are nearly full, put them in a pan with enough warm, but not boiling, water, to about half cover them. Set pan in a moderately hot oven for half an hour, when the pudding will have puffed up above half the height of the moulds. Serve with a simple cream sauce. To make this sauce put a pint of milk to boil over the fire and break into a bowl two whole eggs, adding one heaping tablespoonful of flour, one even tablespoonful of cornstarch and three rounded tablespoonfuls of sugar. Beat these ingredients together for three minutes and when these are mixed add the milk, if it is boiling, stirring it in thoroughly for two minutes. Return the whole to the saucepan and the fire and stir it quickly until it boils. Add a teaspoonful of vanilla flavoring, strain through a puree sieve and serve. This is a good sauce to serve with sago, tapioca or bread pudding.

My name on a lamp-chimney says,  
"Pay double for me; I give double light and don't break."

MACBETH.

How to take care of lamps, including the getting of right-shape chimneys, is in my Index; sent free.

MACBETH, Pittsburgh.

**HEALD'S**

BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

**The Rialto Canner**

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, September 16, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	81 1/2 @ 82 3/4	83 3/4 @ 84 1/2
Thursday	82 1/4 @ 83 1/4	84 1/4 @ 85 1/4
Friday	82 1/4 @ 83 1/4	84 1/4 @ 85 1/4
Saturday	81 1/2 @ 82 3/4	83 3/4 @ 84 1/2
Monday	82 1/4 @ 83 1/4	84 1/4 @ 85 1/4
Tuesday	83 1/4 @ 84 1/4	84 1/4 @ 85 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	50 1/2 @ 51 1/2	50 3/4 @ 51 3/4
Thursday	51 1/4 @ 52 1/4	51 1/2 @ 52 1/2
Friday	50 1/2 @ 51 1/2	50 3/4 @ 51 3/4
Saturday	50 1/2 @ 51 1/2	50 3/4 @ 51 3/4
Monday	51 1/4 @ 52 1/4	51 1/2 @ 52 1/2
Tuesday	52 1/4 @ 53 1/4	52 1/2 @ 53 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 47 1/2 @ 1 48 1/2	\$1 48 1/2 @ 1 49 1/2
Friday	1 47 1/2 @ 1 48 1/2	1 47 1/2 @ 1 48 1/2
Saturday	1 46 1/2 @ 1 47 1/2	1 47 1/2 @ 1 48 1/2
Monday	1 47 1/2 @ 1 48 1/2	1 47 1/2 @ 1 48 1/2
Tuesday	1 48 1/2 @ 1 49 1/2	1 48 1/2 @ 1 49 1/2
Wednesday	1 48 1/2 @ 1 49 1/2	1 48 1/2 @ 1 49 1/2

### WHEAT.

Although there is nothing to warrant anticipating low prices for wheat the current season in any part of the world, and although the latest advices from importing countries have been the most bullish in tone of all the reports which have thus far come forward this year, the speculative market has been sagging part of the week, and spot wheat, while not appreciably lower, has inclined less in favor of the selling interest than earlier in the month. The only apparent cause is that, regardless of the strong undertone of the market, there are many holders wishing to realize, being satisfied with prevailing values, while there is no general inclination of importers, exporters or speculative operators, to pile up wheat at present prices to any greater extent than their necessities compel them to. Very little wheat is going forward from here, nor are shipments of this cereal likely to be heavy in the near future. One charter was effected at the low figure of 12s 6d to Europe, for wheat required for stiffening. As to the world's wheat supply and probable requirements, J. W. Rush, of London, writes to the Northwestern Miller: "It will probably come as a surprise to many wheat operators in America that, large as the past season's requirements have been, they promise to be almost as large in the ensuing season, notwithstanding the falling out of the ranks of importers of Australasia. It is impossible to suggest at this moment just where this immense quantity of wheat, 64,000,000 quarters (or 512,000,000 bushels) is likely to come from. It seems probable, meanwhile, that America, the exports of which in the past season have been 203,000,000 bushels, may not have more than 175,000,000 to spare in the forthcoming twelve months. It is likely, too, that Canada may have 15,000,000 bushels less than last season's exports of nearly 50,000,000. The point which stands out clearly to my mind is that while the importing countries look like requiring 512,000,000 bushels in the season just begun, America and Canada may have only about 210,000,000 bushels to supply. To obtain 300,000,000 bushels from all the other countries will, in my opinion, be found difficult at anything below the present level of prices; such a total has at any rate never before been reached by these other countries."

California Milling	1 55 @ 1 60
Cal. No 1 shipping, alongside	1 45 @ 1 47 1/2
Oregon Club	1 44 1/2 @ 1 45
Washington Blue Stem	— @ —
Washington Club	— @ —
Of qualities wheat	— @ —

### PRICES OF FUTURES.

December, 1903, delivery, \$1 46 1/2 @ 1 48 1/2.  
May, 1904, delivery, \$1 47 @ 1 48 1/2.

Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1 47 1/2 @ 1 47 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	6s 4 1/2 @ 6s 5d	s-d @ s-d
Freight rates	22 1/2 @ 23 1/2	12 1/2 @ 13
Local market	\$1 15 @ 1 16 1/2	\$1 45 @ 1 47 1/2

### FLOUR.

The market is firm at rates quoted, stocks being lighter than they have been for a long time, and are not likely to soon show material increase. Comparatively heavy shipments continue to be made to

Asia, two steamers sailing the past week for the Orient, taking an aggregate of nearly 29,000 barrels. Business locally is of only fair volume, large consumers not caring to stock up to any great extent at figures now generally asked.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Fancy brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	3 50 @ 4 00
Washington, Bakers' extra	3 50 @ 4 15

### BARLEY.

There have been no pronounced changes in quotable values since last review, but the market has been less buoyant in tone, buyers taking hold less freely at the extreme figures which have been lately established. Ships are not clearing very rapidly, showing that exporters are having some difficulty in securing all the barley they require. Much of the barley which has been going forward was disposed of prior to purchase and at lower figures than warranted by the present market. One ship was chartered this week for barley as main cargo at 15s per ton to Europe. Most of the ships in the grain fleet now loading are taking this cereal.

Feed, No. 1 to choice	\$1 13 1/2 @ 1 15
Feed, fair to good	1 10 @ 1 12 1/2
Brewing, No. 1 to choice	1 20 @ 1 22 1/2
Chevalier, No. 1 to choice	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair	1 12 1/2 @ 1 32 1/2

### OATS.

Business has not been particularly active the past week, nor has the market been especially noteworthy for strength, but values have been quite well maintained at the quoted range. High grade blacks are in light stock and higher. Oats are not arriving very freely from Oregon or Washington, holders there contending for relatively firmer figures than are at present readily obtainable in this center.

White Oats, fancy feed	1 32 1/2 @ —
White, good to choice	1 25 @ 1 30
White, poor to fair	1 20 @ 1 24 1/2
Gray, common to choice	— @ —
Milling	1 25 @ 1 30
Surprise, good to choice	— @ —
Black Russian feed	1 15 @ 1 30
Black for seed	1 45 @ 1 60
Red, fair to choice	1 15 @ 1 35

### CORN.

Spot stocks are not of heavy volume, and are mostly Eastern product. Of Eastern large corn, straight and mixed, there is enough to accommodate the immediate demand at full current figures. The corn imported represents purchases made by dealers, none of it being on consignment. Small Yellow is in exceedingly light supply.

Large White, good to choice	1 50 @ 1 55
Large Yellow	1 50 @ 1 55
Small Yellow	1 70 @ 1 75
Eastern, in bulk	1 32 1/2 @ 1 37 1/2

### RYE.

Offerings and demand are both light. To purchase freely full current quotations or more would have to be paid.

Good to choice, new..... 2 22 1/2 @ 2 27 1/2

### BUCKWHEAT.

Nothing doing in a wholesale way, owing to absence of offerings. Values remain nominally as last quoted.

Good to choice..... 2 00 @ 2 50

### BEANS.

New crop beans are arriving in moderate quantity from Sacramento River section and are meeting as a rule with prompt sale. Large Whites have been selling mainly at \$2 60 @ 2 75. Bayos have been placed mostly at \$2 75 @ 3 00. Offerings thus far have shown generally good quality and above the average of previous seasons. With the bean crop East reported light and of poor average quality, the prospects are quite favorable for a good shipping demand this season for the California crop. Stocks of old beans are now of small compass, and they are mostly in few and strong hands.

Pea, fair to good, 100 lbs.	3 25 @ 3 40
Small White, good to choice	2 75 @ 3 00
Large White	2 60 @ 2 75
Pink	2 75 @ 3 00
Bayos, good to choice	2 60 @ 2 90
Reds	2 50 @ 2 75
Red Kidney	— @ —
Limas, good to choice	3 40 @ 3 50
Black-eye Beans	2 50 @ 2 75
Garbanzos, large	2 00 @ 2 25
Garbanzos, small	1 25 @ 1 50

### DRIED PEAS.

Consignments of new are coming forward, both Green and Niles. Market for Green is ruling a little more favorable to producers than last season. The tendency on Niles peas is to slightly firmer figures than have been lately current.

Green Peas, California	1 85 @ 2 00
Niles Peas	2 25 @ 2 35

### HOPS.

The local market is strong, with few hops offering from either first or second hands. It is doubtful if free purchases of choice new could be effected at less than 25c, but this figure remains above the views of wholesale operators, and they are

consequently not securing many hops at present. New York advices by mail report the situation as follows: "Remaining stocks of 1902 hops are very small, only 1600 bales left in Oregon (with 800 bales in one party's hand), 1500 bales in Washington and 800 bales in California. Growers on the coast refuse to sell 1902 hops at 22c, which dealers are willing to pay. This year's growths are held so strong that no bids up to present time will tempt the growers. Picking in all three coast States is now universal, and quality in California and Washington all that could be desired. Weather in Oregon has turned favorable, but the crop has been damaged by mold and promises many different qualities, with general opinion that the crop will be inferior in quality to last year's. Picking in New York State is in full blast. Some early hops have been purchased in the country at 25 @ 27c, but growers are now asking 27 @ 30c. for regular late hops; dealers refuse to pay any such figures, and in consequence no business is being done. German reports show quality in general satisfactory and quantity about the same as last year. From Bohemia it is confirmed that crop will be 65,000 to 70,000 cwt., with different qualities. London reports a change to better weather conditions, and some authorities now raise estimates of the crop to 440,000 cwt., against 400,000 cwt. two weeks ago. Business on the local market is steady. Some parcels of 1902 hops have changed hands between dealers at 24c upward, according to quality."

California, good to choice, 1903 crop..... 23 @ 23 1/2

### WOOL.

Not much has been done in the local market the past week. Interior buying is reported less active than for some time past, on account of labor troubles in the San Francisco wool houses. Quotable values are no lower, and that any declines of consequence will be experienced in wool prices during the balance of the season is not probable. There may be some hardening of quotations later on, particularly for most desirable qualities. Stocks of wool in the hands of manufacturers are light.

### SPRING.

Humboldt and Mendocino	18 @ 20
Northern, free	16 1/2 @ 17 1/2
Northern, defective	14 @ 16

### FALL.

Mountain free	10 @ 13
San Joaquin Plains	8 @ 11
Nevada	12 @ 16

### HAY AND STRAW.

Receipts of hay are showing some decrease, as compared with a month or two past, but are still of liberal volume. Medium and lower grades continue to be most freely offered, and for these descriptions the market shows the least firmness. Occasional sales of fancy wheat hay are made up to \$15, offerings of this kind being decidedly light. Straw was in increased supply, and the recent comparatively stiff prices for this article were not well maintained.

Wheat, good to choice	10 00 @ 14 50
Wheat and Oat	10 00 @ 13 00
Oat, fair to choice	8 50 @ 12 50
Barley	8 00 @ 11 50
Clover	9 00 @ 10 00
Alfalfa	8 50 @ 11 50
Stock Hay	8 00 @ 9 00
Compressed	11 00 @ 14 50
Straw, 1/2 bale	45 @ 60

### MILLSTUFFS.

Stocks of Bran and Middlings are on the increase and market is lacking in firmness. Were it not for the fact that supplies are concentrated in few hands, lower prices would be now prevailing. The last quoted advance on Rolled Barley is being well maintained. Supplies of Milled Corn are showing some increase, but prices remain as last noted.

Bran, 1/2 ton	21 50 @ 22 50
Middlings	28 1/2 @ 27 50
Shorts, Oregon	21 50 @ 22 50
Barley, Rolled	24 00 @ 25 00
Cornmeal	33 00 @ 34 00
Cracked Corn	33 50 @ 34 50

### SEEDS.

Quotations for Mustard Seed are nominal at present and are based on values of last year's product. Samples of this year's Mustard have been forwarded East for bids. The crop is light. Canary Seed is in limited supply and is meeting with a good market. Flaxseed is in moderate supply and values fairly steady.

Alfalfa, Utah	Per cwt. — @ —
Alfalfa, Cal., good to choice	— @ —
Flax	2 25 @ 2 50
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25

Canary	Per lb. 5 @ 5 1/2
Rape	1 1/2 @ 2 1/2
Hemp	3 1/2 @ 4

### HONEY.

There were tolerably large receipts the past week, one steamer bringing over 1,000 cases, mainly from Ventura. Most of this honey represented previous purchases and a large portion of it is expected to go aboard ship for Europe. Nothing is more desirable as dunnage for sailing vessels than Extracted honey. Prices for

both Comb and Extracted remain quotably about as last noted, with a generally firm tone to the market.

Extracted, White Liquid	6 @ 6 1/2
Extracted, Light Amber	5 1/2 @ 6
Extracted, Amber	5 @ 5 1/2
Extracted, Dark Amber	4 1/2 @ 4 3/4
White Comb, 1-lb frames	13 @ 14
Amber Comb	9 @ 11
Dark Comb	— @ —

### BEEFWAX.

Stocks continue of exceedingly light proportions, and no likelihood of there being any surfeit of offerings the current season. There is a good demand at prevailing values.

Good to choice, light 1/2 lb.	27 1/2 @ 29
Dark	25 @ 26

### LIVE STOCK AND MEATS.

Best qualities of Beef are meeting with a moderately firm market, but lower grades are not being specially sought after. Veal of prime to choice quality is in fair request at quotably unchanged values, and is not being offered very freely. Mutton is in ample supply for the current demand and only the best sells readily or commands top figures. Lamb is not plentiful and choice is salable to advantage. Hogs have been commanding about same figures as last quoted, with no heavy arrivals of choice packing stock and market for such tolerably firm. Of Small Hogs there is no scarcity.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.	6 1/2 @ 7
Beef, 2nd quality	6 @ —
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 1/2 @ — c; wethers	8 @ —
Hogs, hard grain, 150 to 250 lbs.	5 1/2 @ 6
Hogs, large hard, over 250 lbs.	5 1/2 @ 6
Hogs, small fat	5 1/2 @ 5 1/2
Veal, small, 1/2 lb.	9 @ 10
Lamb, Spring, 1/2 lb.	9 @ 10

### HIDES, SKINS AND TALLOW.

Demand is fair for Hides and Pelts, values remaining practically as last noted. Tallow market is quiet but steady.

### BAGS AND BAGGING.

Market is not showing much life. Present business is mainly in Fruit Sacks, and the season's requirements for this description is about satisfied. The Grain Bag market is lifeless; prices here are below the parity of values now ruling in Calcutta.

Fruit Sacks, cotton	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/2
Grain Bags, Calcutta, buyer June—July	— @ —
Grain Bags, San Quentin, in lots of 2,000, 100, 101	5 55 @ —
Wool Sacks, 4-lb.	32 @ —
Wool Sacks, 3 1/2-lb.	30 @ —

### POULTRY.

A tolerably good demand was experienced for choice young stock, particularly young chickens in prime to choice condition, these bringing fully as good prices as preceding week. Choice Broilers brought relatively better figures than Fryers. Large fat Hens were in request at full current rates. Common fowls in poor flesh met with a slow and weak market. Demand for Pigeons was fair, but was mainly for choice young, which are slightly higher. Ducks at the close commanded an advance.

Turkeys, young, 1/2 lb.	20 @ 22
Turkeys, old, 1/2 lb.	15 @ 16
Hens, California, 1/2 dozen	4 50 @ 5 00
Roosters, old	4 50 @ 5 00
Roosters, young (full-grown)	5 00 @ 6 00
Fryers	3 50 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 50 @ 3 00
Ducks, old, 1/2 dozen	4 00 @ 5 00
Ducks, young, 1/2 dozen	5 00 @ 6 00
Geese, 1/2 pair	1 50 @ 1 75
Goats, 1/2 pair	2 00 @ 2 25
Pigeons, old, 1/2 dozen	1 50 @ —
Pigeons, young	1 50 @ 2 00

### BUTTER.

Strictly fancy fresh is a rather scarce article and offerings of this sort are meeting with prompt custom, market being firm at prevailing values. Medium and lower grades of fresh are, however, selling very slowly, despite the fact that they are being offered at comparatively low prices. The trade which is not on finest fresh is running almost wholly on cold storage butter.

Creamery, extras, 1/2 lb.	30 @ —
Creamery, firsts	29 @ —
Dairy, select	28 @ —
Dairy, firsts	26 @ 27
Dairy, seconds	20 @ 22
Firkin, good to choice	— @ —
Mixed Store	18 @ 19
Pickled Roll	— @ —

### CHEESE.

There are more flats offering than demand can be found for at prevailing values. A few mild and very select new are bringing tolerably stiff figures. Small cheese are in light supply, but not many are required to satisfy the demand at existing rates.

California, fancy flat, new	13 @ —
California, good to choice	12 @ 12 1/2



California, "Young Americas"..... 13 1/2 @ 14 1/2  
Eastern..... 13 1/2 @ 15 1/2

## EGGS.

High grade fresh continue to arrive very sparingly and market for same is decidedly favorable to sellers. Common grades of fresh are receiving little attention, buyers taking cold storage eggs instead, which are being offered freely, both California and Eastern, and at prices little above first cost and carrying expenses.

California, select, large, white and fresh. 36 @ 37 1/2  
California, select, irregular color & size. 28 @ 33  
California, good to choice store..... 20 @ 23  
Eastern..... 19 @ 25

## VEGETABLES.

Changes in quotable values or general tone of the market for vegetables now in season were not numerous or very pronounced. Tomatoes averaged a little lower than preceding week, but for choice to select stock the market could not be termed especially favorable to buyers. Green Corn was in only moderate receipt and offerings did not include any very large proportion of choice to select. String and Lima Beans brought slightly improved figures. Onion market was steady, with demand somewhat improved, but stocks were ample.

Beans, Lima, # sack..... 1 00 @ 1 25  
Beans, String, # lb..... 1 1/4 @ 3  
Cabbage, choice garden, # 100 lbs..... 75 @ 85  
Corn, Green, # crate..... 1 00 @ 1 75  
Corn, Green, # sack..... 75 @ 1 50  
Cucumbers, # large box..... 35 @ 60  
Egg Plant, # box..... 40 @ 65  
Garlic, # lb..... 2 @ 3  
Onions, Yellow Danver, # ctn..... 50 @ 65  
Okra, Green, # small box..... 35 @ 50  
Peas, Sweet Garden, # lb..... 2 1/2 @ 3  
Peppers, Green Chile, # box..... 30 @ 50  
Peppers, Bell, # box..... 30 @ 50  
Summer Squash, # large box..... 35 @ 50  
Tomatoes, Bay, # large box..... 40 @ 75

## POTATOES.

The market for potatoes has ruled quiet most of the week under review. In quotable values there were no radical changes, but the general tone was lacking in firmness. Most of the potatoes coming forward represent prior arrival purchases, and in some instances they are being sold at lower figures than are being paid at producing points, this being done with a view of choking off competitive buying in the interior. Sweet potatoes were in ample supply for the current demand, and prices were fully as favorable to buyers as during preceding week.

Sacramento River Burbanks..... 50 @ 90  
Salinas Burbanks, # cental..... 1 25 @ 1 60  
Early Rose..... @  
Sweet potatoes..... 1 50 @ 1 75

## The Fruit Market.

## FRESH FRUITS.

Apples were in heavy stock, but there were not many of strictly choice to select quality, the bulk of offerings being quite ordinary, and for latter sort the market was wholly lacking in firmness. For fine Spitzenburg, \$1.25 per box was realized. Sales of best Gravensteins and Bellefleurs, 4-tier stock, were mainly within range of \$1@1.10 per box. Medium grades of Apples were offered freely within range of 40@75c per box, and poor were obtainable down to 25c. Bartlett Pears are nearly out, and for choice the market was very firm, canners paying up to \$40 per ton for Oregon stock; for choice California, \$1.40 was realized per 40-pound box. Peaches were in reduced receipt and values ruled steady, although canners purchased less freely than previous week. Plums and Prunes were in reduced supply and tendency of the market was to more firmness. Figs were not plentiful, and in a small way sold to fair advantage. Quinces moved rather slowly. For Pomegranates the demand was far from brisk. Grape market was without special change, the demand being fair for most table varieties, and offerings sufficient for the inquiry. Wine Grapes arrived sparingly and inquiry for them was only moderate. Berries did not make much of a showing, neither was the demand active. Melons of all kinds were in good request at prevailing rates.

Apples, fancy, # 4-tier box..... 1 00 @ 1 25  
Apples, good to choice, # 50-box..... 65 @ 80  
Apples, common to fair, # 50-box..... 30 @ 40  
Blackberries, # chest..... 2 50 @ 5 00  
Cantaloupes, # crate..... 1 75 @ 2 50  
Crabapples, # small box..... 40 @ 65  
Figs, Black, # box..... 60 @ 1 00  
Figs, White, # box..... 40 @ 75  
Grapes, # crate..... 50 @ 70  
Grapes, # small box..... 30 @ 60  
Grapes, # large open box..... 50 @ 1 00  
Nutmeg Melons, # box..... 23 @ 24 00  
Peaches, # box..... 75 @ 1 00  
Peaches, good to choice ctn, # ton..... 30 @ 25 00  
Peaches, good to choice freestone, # ton..... 30 @ 25 00  
Pears, Bartlett, # box..... 1 00 @ 1 50  
Pears, other varieties, # box..... 50 @ 90  
Pears, No. 1 Bartlett, # ton..... 35 @ 40 00  
Plums, good to choice, # box..... 40 @ 75  
Plums, Large Green, # ton..... 25 @ 30 00  
Pomegranates, # box..... 50 @ 90  
Raspberries, # chest..... 4 00 @ 7 00  
Strawberries, Melinda, # chest..... 2 50 @ 4 00  
Watermelons, # 100..... 12 @ 30 00  
Whortleberries, # lb..... 6 @

## DRIED FRUITS.

The market for dried and evaporated

fruits shows generally healthy condition, with a fair movement in Peaches and Pears, which have been lately receiving the bulk of attention. Peaches are running heavily to large sizes this season, and in consequence small or standard are in more active request at the lower figures than are large at top rates. Apricots are not now offering in great quantities from first hands and prevailing values are being well sustained. A shipment of 37,200 lbs. of Apricots went forward this week by steamer for Germany. Apples are slow and for the time being incline against the selling interest, owing to weakness East. In quotable valuable for California product, however, there are no appreciable declines to record. Inquiry for Pears is most active for choice to fancy, and for this sort the market shows most firmness, these being in light stock. Plums are not offering in great quantity, and for choice, more particularly light colored varieties, the market is quite firm. Nectarines are receiving increased attention and selling to better advantage than at the beginning of the season. Market for new Prunes remains quiet, buyers not taking kindly to the figures asked, but holders are firm. Stocks of old Prunes are now light; a further shipment of 71,830 lbs. was made this week to Hamburg.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice..... 4 1/2 @ 5  
Apples, extra choice to fancy, 50-lb box..... 5 1/2 @ 6  
Apricots, Moorpark..... 8 @ 11  
Apricots, Royal, good to choice, # lb..... 7 @ 8  
Apricots, Royal, fancy..... 8 1/2 @ 9  
Figs, 10-lb box, 1-lb cartons..... 60 @ 75  
Nectarines, # lb..... 4 @ 5  
Peaches, unpeeled, fair to good..... 4 @ 4 1/2  
Peaches, unpeeled, choice..... 5 @ 5 1/2  
Peaches, unpeeled, fancy..... 6 @ 6 1/2  
Peaches, unpeeled, extra fancy..... 7 1/2 @ 10  
Peaches, peeled..... 10 @ 12 1/2  
Pears, halves, fancy..... 7 1/2 @ 8 1/2  
Pears, halves, choice..... 6 @ 7  
Pears, halves, fair to good..... 5 @ 6  
Plums, Black, pitted..... 4 1/2 @ 5  
Plums, Red and Yellow..... 6 @ 7  
Prunes, Silver, good to fancy..... @  
Prunes, in bags, 4 sizes, 23 @ 3; 40-50s, 4 1/2 @ 4 1/2 c; 50-60s, 4 @ 4 1/2 c; 60-70s, 3 1/2 @ 3 1/2 c; 70-80s, 3 @ 3 1/2 c; 80-90s, 2 1/2 @ 2 1/2 c; 90-100s, 2 @ 2 1/2 c; small, @-c.

## COMMON SUN-DRIED.

Apples, sliced..... 3 1/2 @ 3 3/4  
Apples, quartered..... 3 1/2 @ 3 3/4  
Figs, White, in bulk..... @  
Figs, Black, in sacks, # lb..... 2 1/2 @ 3 1/2  
Plums, unpitted, # lb..... @

## RAISINS.

Last year's Raisins are all out of the wholesale market. Early deliveries of new crop will soon be made. Association prices remain 6 1/2c, 6 1/2c and 7c for 2, 3 and 4 crown loose Muscatel, Fresno delivery, 1c less at Woodland, these figures to hold good until February.

## CITRUS FRUITS.

Orange market is almost lifeless. A few Valentias are offering at same figures current for several weeks past. Lemons have been in good request, and market has been tolerably firm for best qualities, but in quotable values there was no appreciable improvement. Limes were scarce and higher.

Oranges, Valentias, # box..... 1 50 @ 3 00  
Lemons, California, select, # box..... 2 75 @ 3 00  
Lemons, California, good to choice..... 2 00 @ 2 50  
Lemons, California, fair to good..... 1 00 @ 2 01  
Grape Fruit, # box..... 1 50 @ 2 50  
Limes, Mexican, # box..... 7 50 @ 8 50

## NUTS.

Almond market is showing steadiness. Present offerings from first hands are in mostly small lots. Prices for new Walnuts have been fixed by the Southern California Association at 12 1/2c for paper shell. Peanuts are in light supply and in fair request at unchanged figures.

California Almonds, shelled..... 15 @ 18  
California Almonds, paper shell..... 9 @ 11  
California Almonds, soft shell..... 7 @ 8  
California Almonds, hard shell..... 5 @ 6  
California Walnuts, paper shell..... 12 1/2 @  
California Walnuts, soft shell..... 11 1/2 @  
Peanuts, fair to prime..... 4 1/2 @ 5 1/2  
Peanuts, Eastern, hand-picked..... 5 1/2 @ 6 1/2

## WINE.

Market shows much the same general condition as a week ago. In wines of any sort there is very little doing in a wholesale way. Dry wines of 1902 vintage are quotable nominally at 15@18c per gallon, top figures being difficult to realize in other than a small way or for very select stock. Receipts of wine at San Francisco last week aggregated 238,200 gallons, and for preceding week 354,400 gallons. The steamer San Juan, sailing on the 12th, carried 83,500 gallons for New York and 412 gallons for other points. For dry wine grapes the figures named by the Wholesale Dealers' Association are \$15 per ton in Sonoma and \$17 in Napa, one-third cash, one-third Feb. 1, and one-third June 1, 1904. Many growers say they will not sell at the figures named. For sweet wine grapes the Association prices range from \$8@12 per ton, as to kind, the lower figure being for Tokays and Muscats, payments to be one-third cash, balance in February and June.

## Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, # sks.....	148,610	1,281,562
Wheat, ctns.....	50,494	436,818
Barley, ctns.....	173,018	1,531,897
Oats, ctns.....	20,249	298,166
Corn, ctns.....	4,355	27,280
Rye, ctns.....	1,037	14,813
Beans, sks.....	4,537	27,180
Potatoes, sks.....	22,284	252,096
Onions, sks.....	6,595	38,577
Hay, tons.....	5,522	56,347
Wool, bales.....	1,087	12,676
Hops, bales.....	495	2,430

## EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, # sks.....	17,724	798,968
Wheat, ctns.....	15,778	141,581
Barley, ctns.....	127,272	1,049,637
Oats, ctns.....	18	6,348
Corn, ctns.....	350	3,818
Beans, sks.....	99	4,130
Potatoes, sks.....	1,828	37,514
Wool, lbs.....	2,642	1,260,659
Hops, lbs.....	15	66,546
Honey, cases.....	15	198
Potatoes, pkgs.....	1,351	17,353

## Valencia and Denia Raisin Crop, 1903.

Report of the Consul at Valencia, Spain, August 17, 1903, furnished by State Horticultural Commissioner for publication in the PACIFIC RURAL PRESS.

The high temperatures and protracted drought referred to in my last report as threatening the otherwise brilliant prospects for a heavy raisin crop continued all through the latter half of July and first days of August, seriously reducing the total yield of grapes which is now estimated to fall short of 500,000 cwt. (25,000 tons), the fruit being also slightly below the average in size. Opening prices are, therefore, exceptionally high, 62 pesetas (about \$8.50) per 100 kilos (220 4 pounds) being today's quotations, which gives the following average equivalent values in United States currency: Off stalk, 9 cents per kilo (2 1/5 pounds); fine off stalk, 9 1/2 cents; finest off stalk, 10 1/2 cents; layers, two-crowns, 10 1/2 cents; do three-crowns, 11 1/2 cents; do four-crowns, 12 1/2 cents, all c. i. f., New York.

J. L. BYRNE,  
U. S. Vice and Deputy Consul.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

## FOR WEEK ENDING SEPT 1, 1903

737,812—EVAPORATING APPARATUS—W. C. Anderson, San Jose, Cal.  
737,893—NUT LOCK—A. D. Asdell, Lakeview, Or.  
737,696—POWER TRANSMITTER—P. W. Bettinger, San Jose, Cal.  
737,823—PRINTING ATTACHMENT FOR ROLL PAPER HOLDERS—R. E. Brudack, S. F.  
737,522—TROLLEY WHEEL—E. S. Cobb, Los Angeles, Cal.  
737,709—CAR BUMPER—T. Collins, San Jose, Cal.  
738,002—PINE NEEDLE MATTRESS—Mathilde R. Cords, S. F.  
737,828—CLOTHES HANGER—Carrie F. Cox, Los Angeles, Cal.  
737,830—HOIST—Duryea & White, Los Angeles, Cal.  
737,997—BUCKLE—H. S. Englebright, North Yamhill, Or.  
737,725—BICYCLE MUD GUARD—H. Fesenfeld, Hoquiam, Wash.  
737,832—BEVELING MACHINE—C. Finnegan, Fairhaven, Wash.  
737,807—FRUIT TRAY—J. H. Gunby, Chico, Cal.  
737,924—WINDOW CLEANING CHAIR—J. H. Hanavan, S. F.  
737,736—MATCH SAFE—W. A. Harmon, Skagway, Alaska.  
737,615—FRUIT CUTTER—C. Harpold, Santa Paula, Cal.  
738,033—MOWING MACHINE—A. T. Haynes, Wheatland, Cal.  
737,622—VEHICLE BRACE—P. Hebert, Hazel Dell, Or.  
737,928—PUMP—N. A. Heyman, Los Angeles, Cal.  
737,737—GAS ENGINE—C. F. Hitchcock, S. F.  
737,735—VAPOR GENERATOR—C. F. Hitchcock, S. F.  
738,038—STOVEPIPE FASTENER—R. H. Hodge, Centralpoint, Or.  
737,841—TILE MACHINE—W. A. Houts, S. F.  
737,842—BRICK MACHINE—W. A. Houts, S. F.  
737,843—TILE MACHINE—W. A. Houts, S. F.  
737,743—BED AND SOFA—L. Kragen, S. F.  
737,747—GAS GENERATOR—J. Kuljis, Portland, Or.  
738,115—ENGINE VALVE—C. E. H. Lincoln, Douglas, Ariz.  
737,756—STILL—W. Maybury, Los Angeles, Cal.  
737,757—TOY—S. E. Miller, Crockett, Cal.  
737,760—OIL BURNER—A. Moorefield, Stockton, Cal.  
737,745—GRUBBING MACHINE—G. Olsen, Port Blakeley, Wash.  
737,769—FASTENER—L. C. Preston, Weston, Or.  
737,966—CANDLE HOLDER—Pauline Rummell, Portland, Or.  
738,129—PACKING—E. W. Tucker, S. F.  
737,886—CIRCULATOR—J. P. Urbanek, York, Wash.  
738,130—COMBINATION TOOL—A. A. Waymire, Woods, Or.  
737,895—TABLE—C. E. Wehn, Los Angeles, Cal.  
737,981—BELT SHIFTER—J. Weichhart, S. F.

**The Measure**  
of  
Success in  
Wheat Growing  
is a complete fertilizer  
containing 6% actual  
**Potash**  
A deficiency of Potash  
in fertilizers will result  
in small grains.  
Our books on Wheat and  
Grain Culture are free to farmers.  
**GERMAN KALI WORKS,**  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

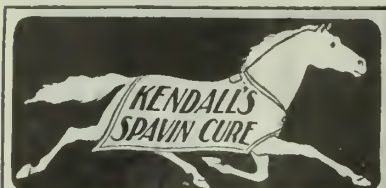
**MALTHOID ROOFING**  
The best low priced  
roofing in the World  
For all climates; heat, cold,  
rain, gases, fumes and fire do  
not affect it. Comes in  
rolls ready for laying. Low  
freight charges. Inexpensive  
to apply, cheap in the  
first place and lasts for  
years.  
Send for booklet.  
**The Paraffine Paint Co.**  
San Francisco, Seattle,  
Portland, Los Angeles  
and Denver, Colorado.

**PATENTS**  
OBTAINED  
IN ALL  
CIVILIZED COUNTRIES.  
EXPENSE SAVED INVENTORS BY  
PRELIMINARY SEARCHES.  
COMMUNICATIONS CONFIDENTIAL.

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports since 1793, with full copies of U. S. Patents since 1872. As a result we are able to give reliable advice as to the patentability of an article, frequently saving the inventor the cost of an application. Our Washington branch tends exclusively to our business before the Patent Office. All worthy inventions patented through DEWEY, STRONG & CO.'S Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, including filing of Caveats, Trade-Marks, Copyrights, Labels; prepare Assignments, Licenses and Agreements; give Opinions on Patentability and Infringements, etc. Circulars free on application.

**DEWEY, STRONG & CO.,**  
(ESTABLISHED 1860.)  
**PATENT AGENTS,**  
330 Market Street, San Francisco, Cal.  
and 918 F Street, Washington, D. C.





## Cures Spavins

Like magic. Read the testimony below and then resolve to suffer no longer from Spavin, Ringbone, Splints, Curbs and all other forms of Lameness. Kendall's Cures them all.

Hersey, Maine, Jan. 1, 1903.

Dr. B. J. Kendall Co.,  
Gentlemen:—I have used your Kendall's Spavin Cure and it works like magic on Spavins. Will you be so kind as to send me one of your "Treatise on the Horse and his Diseases." Very truly yours,  
H. D. DARLING.

Price \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for KENDALL'S SPAVIN CURE, also "A Treatise on the Horse," the book free, or address  
DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

## THE VETERINARIAN.

### The Sheep Scab and the Law.

There are between 80,000 and 90,000 sheep in Sacramento county, mostly Merino or a mixture of Merino and Shropshire, said John N. Blair, the deputy sheep inspector, to a Sacramento Union reporter the other day. He added that most of these sheep run upon lands good only for sheep pasturage.

**PRIZE SHEEP OF THE WORLD.**—J. H. Glide of Sacramento is the principal owner of sheep in this vicinity. It may not be generally known that Mr. Glide purchased the sheep which were accorded the highest prize at the Paris Exposition and brought them here. They are French Merinos and their product is shipped in every direction. Forty-five of them he recently sent to the City of Mexico. They are very high priced and, says Mr. Blair, "the handsomest sheep I ever saw."

**A BAD DISEASE AND ITS CAUSE.**—Our sheep in California are bothered more by scab than anywhere else. This fact led to the passage by the last Legislature of an Act making the inspection of sheep compulsory. This is done under the headship of the State Veterinarian, Dr. Blemer. Every board of county supervisors appoints a deputy inspector, who receives no salary, but collects fees amounting to \$4 per day for inspection. Only a very few object to this inspection—most owners of flocks welcome it.

**THE NEW SHEEP INSPECTION LAW.**—The law gives these inspectors ample power. They do not have to wait for owners to call them. They inspect for any infectious disease, but more particularly for scab. When they find it they give a written order to the owner to eradicate it by proper treatment in fifteen days. If the owner does not comply the inspector does the work and the owner pays the cost. If the owner dips twice and the parasite causing the scab is not eradicated the inspector must enter upon the work himself at the cost of the owner.

**ENORMOUS MULTIPLICATION.**—The reason for this haste is that a single female parasite on a sound sheep in ninety days will multiply so that there will be 1,000,000 female parasites and 500,000 males. Mr. Blair says that the first generation after fifteen days produces 10 females and 5 males; after thirty days, 100 females and 50 males, and the third generation after forty-five days, 1000 females and 500 males, and so on by each fifteen days to the sixth generation in ninety days, when the enormous total of 1,000,000 females is produced.

**WHY INSPECTION IS ENFORCED.**—It is for this reason that the law compels inspection, because the owner of a small band who neglects his flock may cause the disease to spread over an entire county. The law requires that every sheep in the county shall be examined between February 1st and October 1st and between October 1st and 1st for the first two years. They must be examined twice between February 1st and June 1st. And is this disease that no

railroad company is permitted to or will it carry sheep except on an inspector's certificate. "We issue, also," said Mr. Blair, "a movable certificate, which gives the owner permission to move his flock to some point where the sheep can be dipped and doctored, for the scab can be cured if taken right and early. The dip kills all the live parasites, but in from nine to eleven days their eggs will hatch, and on the twelfth day will begin to breed marvelously, so that the sheep must be dipped the second time between the ninth and eleventh days."

**CAUSE OF THE SCAB DISEASE.**—"Some owners hold that the disease comes from bad feed, but that is a mistake. It is spread by infection only," says the deputy. "Let an infected sheep scratch itself upon a fence or a tree or post in driving, and the parasite in the bit of wool pulled off will live fourteen days and infect the next sheep that touches it."

Mr. Blair says that the losses due to this insect are so heavy that they are exceeded by those due to no other external parasite and equal to those of the most destructive internal parasite, but under the law these losses are now being rapidly reduced, because, after all, this scab parasitic disease is the most tractable of all and may be exterminated.

**THE PARASITE THAT CAUSES THE TROUBLE.**—The scab parasite is so minute upon the skin of its host that it cannot be seen by the eye. As it penetrates in search of food and a place of deposit for its eggs it irritates and inflames and a scab is formed. Some think that the disease is aggravated by a poisonous fluid secreted by the insect, which aggravates the itching. It will be easily understood, when the rapid propagation is considered, how the fleece and finally the sheep is destroyed.

There are three kinds of scab-forming parasites on sheep, each specifically different from the other, and in each case the disease is different, due to the variation in the anatomical structure and habit of the several species of pests, causing them to attack in different places by different methods, so the inspector finds various symptoms for each disease.

**HOW THE PARASITE WORKS.**—The parasite bites the skin in its attack and a scab forms, under which the insect lays its eggs, they hatching in two or three days, and in fifteen days the progeny becomes adult. As soon as hatched the young invade new territory and lead the life of their parents. The disease usually spreads as a constantly growing patch and the infected sheep scatter the scabs by scratching, and these in turn become new centers of infection. So the multiplication of the invading pests ceases only at the death of the host, or when killed by the use of proper remedies.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS

**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## HAVE YOU SEEN THE Jack of All Trades

—A GASOLINE ENGINE  
of the most modern type for farm use!  
Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.  
Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."  
Fairbanks, Morse & Company,  
San Francisco, Los Angeles,  
Portland, Or.



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by FIELD FORCE PUMP CO., Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717, 134 S. Broadway, Los Angeles, California.

FOR INFORMATION REGARDING  
PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,  
Write KROGH MFG. CO.,  
519 MARKET ST., SAN FRANCISCO.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	


The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



**SHARPLES TUBULAR FARM CREAM SEPARATORS**



A lot of people make separators, and all are made with the bucket bowl excepting one—  
**The Tubular.**

There is but one Tubular type of separator and we make that. Our competitors cannot make it because our patents prevent. They have to make the old style bucket bowl or none at all. The Tubular is a great improvement, and it is just a question whether you want this improved machine or one of the old style bucket bowl machines. Write for free catalog 131. THE SHARPLES CO., P. M. SHARPLES, Chicago, Ill., West Chester, Pa.

## CEREAL CROPS.

### What the Grain Growers' Association Proposes.

The directorate of the California Grain Growers' Association met in Sacramento on Thursday and occupied the larger part of the afternoon in consultation. The Record gives an interesting report of the meeting:

There were present Geo. W. Pierce, president, of Yolo; P. R. Garnett, of Glenn; L. H. Applegate, of Merced; David Reese, of Sacramento, and B. F. Walton, of Sutter. Other members of the directory sent regrets owing to sickness, absence from the State and business engagements.

The purpose of the meeting was to agree upon a future policy for the conduct of the Association. President Pierce said that there is a membership of over 600; that in its initial year the association had done a splendid work; but now the conditions have changed and the directorate is puzzled in what direction to move to improve the farming condition among grain growers. It began at the right end and had done enough for grain growers to earn their everlasting gratitude. The stir it made brought to it capital in plenty, grain buyers, charter sellers, warehouse men and all others respected it. Agents of some of the most powerful organizations of capital had come to the association and offered it anything it wanted. It had numerous offers of unlimited capital to build elevators, warehouses, etc., and to secure it any number of charters. Ship owners from Germany, England and the East got into communication with the society, and as a result grain growers were enormously benefited, and got from \$8 to \$10 a ton more for their products than ever before.

But now conditions are much changed and the question is, What shall the association do next to interest the farmers? For one he wanted to see the sack tax eliminated and the grain shipped in bulk. When the farmer is educated to that he will make a great step in advance for that means storage and command.

Mr. Applegate said if the farmers can be brought up to that they will have won their battle.

Mr. Walton said that at 6 cents a sack the farmers pay something like \$1,500,000 a year that they might as well save.

A. R. Sprague, manager of the California Fresh Fruit Exchange, by invitation, described how his organization worked and eliminated the middle man, and he believed something of that kind would serve the farmers well. He set out in detail the scheme of the fruit exchange, and answered very many inquiries about it. He also advised co-operation and said that every co-operative enterprise should bend its energies to help every other co-operator. He commended the Rochedale idea to the directorate as worthy of its consideration, and said the Rochedale people would assuredly aid the farmers wherever they could. He believed the education process would bring grain growers to the point when they would not fear a contract.

Mr. Walton explained in some detail the work of a farmers' organization in

his county, and held that organization should be the next work of the association. In this Mr. Applegate and Mr. Garnett heartily concurred.

Mr. Reese said that if possible there should be built up local farmer organizations among those who grow grain. Then might follow federation of these locals. Farmers should be educated to the economy of storing grain and the locals would be excellent means to that end. Storage meant control. It meant putting the grain grower in line with trade and all advantages would be his.

Mr. Walton said that was well enough, but storage at Port Costa meant added cost to every cental. True, home storage could be promoted; but the limitations in that direction are very great now.

President Pierce said there might be both kinds of storage. But the great end to be achieved is bulk shipment. That means special preparation of clippers, however, but it meant less special preparation of tramp steamers. When farmers could trust a directorate to take and handle their grain the way would be cleared to good profits.

Mr. Garrett thought all the suggestions good, but the question is, now can the grain growers be educated up to these things? Moreover, before anything in these directions is undertaken there must be perfect understanding of the matter, and all possible obstacles looked at.

Mr. Pierce said if the sack burden could be eliminated it meant freedom and such broader margin that grain growing will be inviting. There was no difficulty in the association getting all the money it wants to carry out its plans when once it settles upon what they should be. Just now the question is, How shall the corporation go to work?

Along these lines the debate continued two hours or more, and at its conclusion the problem of what shall be the work of the Association for the future was referred to the Executive Committee to map out a plan and report at a called meeting.

## DAIRY FOR SALE.

Flourishing Dairy Business in Stockton.

COMPLETE EQUIPMENT,  
FINE CASH ROUTES,  
LONG ESTABLISHED.

Owners Sick and Must Sell.

ADDRESS:

**S. P. ADAMS,**  
R. F. D. 1, STOCKTON, CAL.  
—OR—  
**C. E. HOWARD,**  
1236 MARKET ST., SAN FRANCISCO, CAL.



**CITRUS TREES**

That will grow, bear profitable crops, and are true to name, are the only kind that we propagate. Thirteen years in the citrus nursery business—hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture free; send for a copy.

**SAN DIMAS CITRUS NURSERIES**  
SAN DIMAS,  
R. M. TEAGUE CAL.

## FARM FOR SALE.

320 Acres, near Newcastle, Placer Co., California.

Comprising 150 acres suitable for fruit raising;

100 acres rich bottom land suitable for hay and alfalfa;

Never failing stream of water for stock and irrigating;

Vineyard of Tokay and Muscat Grapes; Sixty acres forest, will yield \$6000 of timber and cordwood.

Price \$8000; half cash, balance on easy terms.

Address "NEWCASTLE," care of Pacific Rural Press.

## GARDEN LAND TO LEASE.

30 ACRES OR MORE OF GOOD BOTTOM sandy soil, suitable for general market gardening; 2 miles from R. R.; 2 miles from one of the best young towns in the State. Three outside vegetable wagons sell from \$30 to \$40 per week per wagon. Close to two summer resorts and other small towns where vegetables sell high. House, barn, etc. For particulars, address

**WALTER ARMSTRONG, Sebastopol, Cal.**

**Alfalfa Land \$2 per acre. cash.**

50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

## GLENN RANCH,

Glenn County, :::: California

## FOR SALE

In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

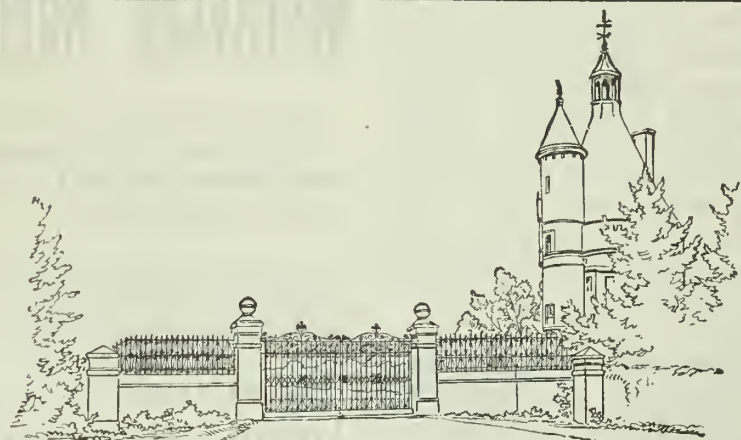
The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

## ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 1,000 acres alfalfa in dairy farms for rent. Pasturage for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

**KEARNEY VINEYARD SYNDICATE**

KEARNEY PARK, FRESNO, CALIFORNIA

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

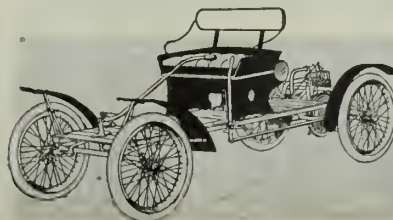
**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**  
GEO. C. ROEDING, PRESIDENT AND MANAGER  
P. O. BOX 12  
**FRESNO, CAL.**



AN **AUTOMOBILE**  
IS WHAT YOU WANT.

Practical, Economical, Up-to-Date and Stylish.

WE HAVE THEM NEW AT \$450 (See Cut).  
SOME GREAT BARGAINS \$350 UP.

**MOTOR VEHICLE CO.,**  
A. C. Wheelock, Mgr. 1814 Market St., San Francisco.



## THE IRRIGATOR.

### Instances of Profit in the Salinas Valley.

Experiments have demonstrated, says the Salinas Index, the practicability and profitableness of this means of producing crops and every liberal minded farmer now agrees that there is plenty of water in the Salinas valley for all purposes, if mortal man will but assist nature in the proper and timely distribution of the same.

While the proposition made by the Spreckels company some time since, to construct a mammoth irrigation canal and by means of sluiceways conduct waste water from the Salinas river's channel across the fields, insuring crops and enhancing the values of land, has not been carried into effect, it is understood that it is only a question of time until this will be accomplished.

The Spreckels ranches, now under cultivation, bear silent but convincing testimony of the efficacy of irrigation, whether we be blessed with a wet season, or are unfortunate enough to be deprived of our usual amount of rain. The same can be said of the numerous individual ranchers near this city who have installed pumping plants upon their land and many will testify that they have paid for themselves within one year. Upon this showing there can be no reason to deny that Monterey can and will become one of the richest counties in the State, and will be absolutely free from arid tracts of land. It is conceded that the best means for adoption in the development of a water supply, ample and sufficient, is an open question and must be governed by the location of the land, the topography thereof and the nature of the soil to be irrigated. Different localities require different methods. Some may tap a spring on the hillside and sluice water over their acreage. Others may be obliged to put in a ram and force the water against gravity's inclination to a reservoir above. Others could pool their issues and with practically little expense and labor, close the mouth of a canyon and thus make for themselves unlimited resources upon which they could draw the floods of winter in the days of summer; while others could sink wells and, with the aid of centrifugal pumps, irrigate thousands of acres.

In the southern part of the county the San Miguel Enterprise cites numerous cases of profitable irrigation and has the following to say:

"On Mr. Doud's ranch near Gonzales water is being pumped from three 10-inch wells sufficient to irrigate 225 acres of alfalfa by running the pumps 12 hours out of each 24. The cost of this pumping plant was about \$5000. The income to Mr. Doud from this 225 acres is \$3375 rent. The 225 acres adjoining is being prepared for alfalfa, and by running the pumps day and night the same plant will irrigate the entire 450 acres. At the same ratio of income received from the first 225 acres, he will realize \$6750 per annum, or in one year will receive \$1750 more than the plant cost.

"Mr. Doud leases this ranch to another man who runs a large creamery on the place and realizes handsomely from his dairy products. This but demonstrates what may be done in this country. Why not have hundreds of such dairy farms on even smaller scales? Dairy products bring immediate cash returns. There is no such thing as waiting for harvest to come in—and of depending on rainfall.

"Mr. Wm. Pinkerton, of the Pleyto country, has 40 acres in alfalfa which is irrigated from one well with an 8-inch pump. The alfalfa was planted about five months ago and is a magnificent stand. Mr. Pinkerton says that on many occasions when the rainfall has been light his stock has suffered. Now he has an abundance of feed for his cattle and horses and a large band of hogs which is turned loose on alfalfa. As new ventures in the line of irrigation from wells is reported the instance of the owners of the big Estrella rancho, who contemplate the development of water on 500 acres of their land next spring, by sinking wells and putting in

large power pumps. This is not an experiment by these people, as Mr. Tognazini, the manager of the ranch, says they have developed water on their lands in Santa Barbara county in this manner, and they know what it means from experience.

"Another instance is that of L. J. Clemons who has leased a piece of land, with the privilege of buying, in the San Marcos canyon and upon which he is to develop water from wells to irrigate the land. Mr. Clemons is a recent convert to the theory of irrigation as outlined in the Enterprise, for this section; and until he had seen recently a practical demonstration of what has been advocated in these columns did not believe that irrigation could be carried on profitably in the manner proposed.

"In driving through this country a man experienced in irrigation as conducted in southern California is impressed with the many exceptional opportunities for irrigation afforded here. In Los Angeles county thousands of dollars have been spent in developing springs located many miles from the land upon which the water is conveyed through pipes and used to such advantage. We have many such springs that are running to waste.

"It is very gratifying to know that we have these instances to cite and it is predicted that many more will be added to the list in the near future. And that this country will be redeemed by irrigation we are confident."

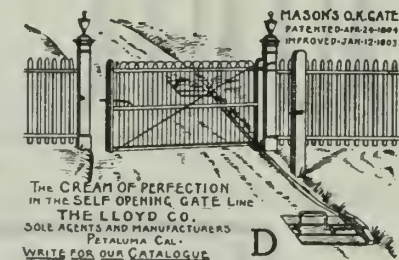
## Moravian Barley.

Grown in the Livermore valley from seed brought to this country from Hungary by the U. S. Agricultural Department.

Hanna or Moravian Chevalier heads out two weeks earlier than the Chevalier usually grown in this State; resists drought, hot weather and wind better than other varieties. In Germany and Austria it is known as the best brewing barley.

FOR SALE IN QUANTITIES TO SUIT BY

**August Hagemann,**  
LIVERMORE, CAL.

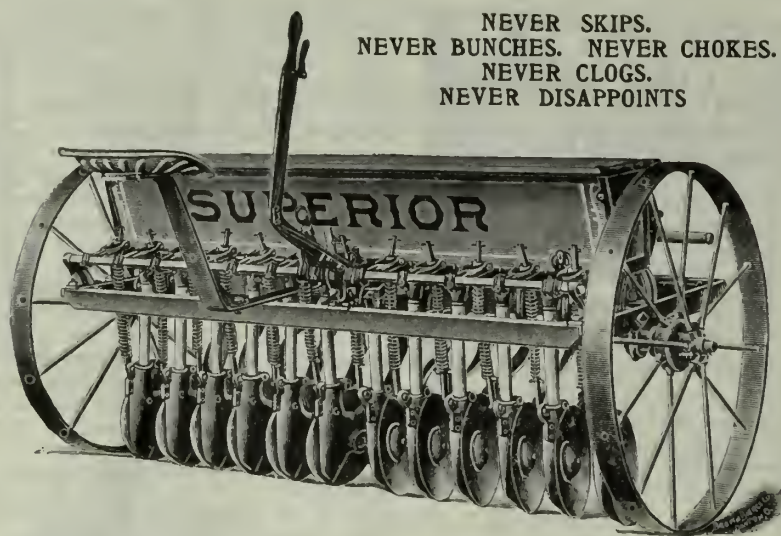
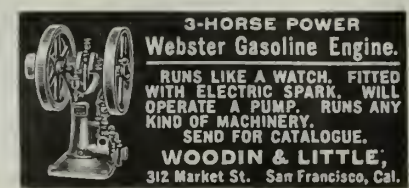
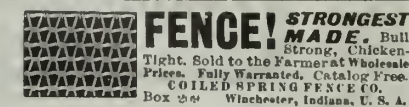


**WIRE** FENCE! GOODS DIPPING BASKETS  
**West Coast Wire & Iron Works,**  
19 Fremont Street.  
San Francisco, Cal.



**See One Roll**

of Page Fence stretched up. That's convincing. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



## The Superior Single Disc Drill.

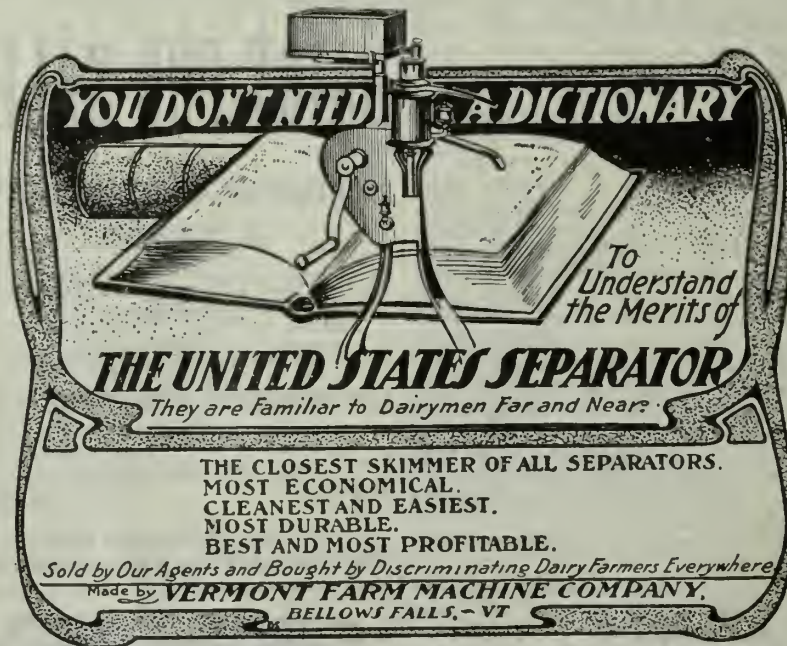
CONSTRUCTED OF THE BEST MATERIAL MONEY WILL BUY.

### SUPERIOR SPECIAL FEATURES:

- Broad-Tire Wood or Steel Wheels. Both Wheels Drivers.
- Solid Steel Frame. Rear Lift. Perfect Balance. Light Draft.
- Perfect Double Tree Hitch. Detachable Grass Seeder.
- Draw Bars Made of High Carbon Steel. Each Disc and Drag Bar Independent.
- Disk Wheel for Changing Quantity Without Change of Parts.
- Perfect Direct Spring Pressure.
- Pull Rod to Shut Off Feeds Without Raising Discs from Ground.

SEND FOR CATALOGUE.

**The H. C. Shaw Co.,**  
AGENTS, STOCKTON, CAL.



[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING  
or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

**THE ELATERITE ROOFING CO.,**  
713 Market Street, San Francisco.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying  
113 FULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$60. Established 1884. Send for Circular.

## Cocoanut Oil Cake.

THE BEST FEED FOR STOCK,  
CHICKENS AND PIGS.

For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.



## The County Awards at the State Fair.

World's Fair Commissioners Filcher and Wiggin acted as judges of the competitive county displays at the State Fair and comment upon their awards as follows:

We have based our estimate of the different county exhibits very largely upon their display of agricultural and horticultural products. Alameda makes a strong showing of manufactured articles and has a commendable collection of decorative plants, and the energy displayed in collecting these for exhibit is deserving of recognition and of consideration in the estimate of the general character of their exhibit, but are not sufficient, in the opinion of your judges, to overbalance the exhibits of strictly agricultural products made by the other exhibitors.

We readily award:

To the county of Yolo, first prize.

To the county of Butte, second prize.

To the county of Alameda, third prize.

To the county of San Joaquin, fourth prize.

The exhibit of San Joaquin county shows a wide range of agricultural products and all of good quality, but lacks in merit as a local seasonable exhibit by reason of the self-evident fact that it consists mainly of cured articles and shows little evidence of effort to make a showing of the season's agricultural output.

Your committee has given special attention to the splendid exhibit of agricultural and horticultural products made by the county of Sacramento, and commend this display in the highest terms, and particularly call attention to the magnanimity of the people of Sacramento county in withdrawing their splendid exhibit from competition with the counties that presumably are required to collect their displays under greater disadvantages.

## Directors' Meeting.

The directors of the California Grain Growers' Association held a meeting and discussed the subject of what further moves could be made to benefit the grain growers of the State.

During the discussion the statement was made that the Association had a membership of over 600, and that the work that had already been performed had resulted in the grain growers of the State receiving from \$8 to \$10 more a ton for their products than they had before the Association was formed.

The project of shipping grain to foreign markets in bulk, and in this way saving the cost of sacking, was advanced, and other like subjects discussed, and eventually the executive committee was instructed to map out plans and present them at the next meeting.

IN REPOSE



ATTENTION



"CLIFF," REGISTERED A. K. C. No. 70,011

If you need a dog to herd your cattle, GET THE BEST! The best is a

Thoroughbred Scotch Collie.

We have Puppies and full-grown stock constantly on hand. For particulars giving pedigree, etc. Address, Toyakano Kennels, Colfax, Placer Co., Cal.

The Thoroughbred BERKSHIRE BOAR, Highelore Oxford 63442.

Sired by Highelore Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young sows and boars of breeding age from this fine boar and out of choice sows for sale by

CHAS. C. PERKINS, Sacramento, Cal.

**BULLS** FOR SALE. Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at OHOWOHILLA STOCK FARM. Address ... ISAAC BIRD, Merced, Cal.

## Breeders' Directory.

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS.** Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAKS & SON,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. L. C." (Ohio Improved Chester) Swine. All ages for sale.

**A. CHI HOLM** Jacinto, Glenn Co., Cal. Registered Berkshire Hogs and Jersey Cattle.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINA FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUKO HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**WHITE LEGHORNS,** either sex, from \$1.00 up. Eggs \$1.00 per 15. Incubator lots, 55 cents per dozen. Mrs. G. S. Bolce, Salinas or Natividad, Monterey Co., Cal.

**SANTA TERESA POULTRY FARM,** Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## SHEEP AND GOATS.

**O. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

**R. H. ORAN,** Santa Rosa, Cal. Breeder and Importer of South Down Sheep.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**FOR SALE.** Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock. Phone RED 123. J. W. McCORD, Hanford, Cal.

Telephone Main 199. **Blake, Moffitt & Towne.** DEALERS IN PAPER. Nos. 55-57-59-61 First St., San Francisco, Cal. BLAKE, MOFFITT & TOWNE, Los Angeles. BLAKE, McFALL & CO., Portland, Or.

CHAS. D. PIERCE, Pres.

W. FRANK PIERCE, Vice-Pres.

## RIVERSIDE HERD HOLSTEINS.

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered.

Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.
Romeo Aaggie Acme	431	7 yr.	28.11 oz.	Corona Clifton	410	6 yr.	16.3 oz.
Fidessa	570	4 "	25. "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d	499	7 "	23.15 "	Mountain Juliet	382	7 "	15.14 "
Netherland Maud Moore	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	388	4 "	15.6 "
Minnewawa Louise	510	4 "	22.9 "	Lady Kurts Alpa	378	6 "	15.2 "
Nicola De Kol	6 "	22.4 "		Pauline Sadie De Kol	367	3 "	15.2 "
De Natsey Baker	484	3 "	21.10 "	Eva Bianco	355	2 "	14.5 "
Ruda 2d Belle	401	7 "	20.9 "	Corona Acturas	344	2 "	14.1 "
De Kol Konigen Van Freisland	440	8 "	20.9 "	Kornd, ke Pietertje Queen	300	2 "	13.14 "
Minnewawa Lily	364	4 "	20.4 "	Aral a De Kol	332	2 "	13.7 "
Dr. sky Artis	460	6 "	20.4 "	Oleander De Kol	324	2 "	13.1 "
Griselda of Brookfield	512	6 "	20.3 "	Rijaneta Clothilde 2d	312	2 "	13.2 "
De Kol of Valley Mead	435	4 "	19.9 "	Segriss Pietertje De Kol 2d	355	2 "	12.11 "
Wynetta Princess	391	2 "	18.7 "	Western Princess	294	3 "	12.11 "
Drusa	399	5 "	18.4 "	Painted Lady	327	3 "	12.10 "
Wakalona	393	5 "	18.3 "	Mary Ann De Kol	391	3 "	12.10 "
Olympia Clay	526	6 "	18.2 "	Miranda Acturas	325	3 "	12.3 "
Victor Idlewild 12m	371	4 "	17.9 "	Rhoda De Kol Clanthia	363	2 "	12.6 "
Cascade Princess	479	8 "	17.2 "	Hengerveld Lass	308	2 "	12.2 "
Western Duchess	387	7 "	16.6 "	Princess Louise De Kol	289	2 "	12. "
Aaggie Martin	416	6 "	16.12 "				
Roma Princess	366	3 "	16.8 "	Wild West De Kol	279	2 "	10.10 "

WE ALSO HAVE PRIZE WINNING BERKSHIRES YOUNG STOCK FOR SALE.

## PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103 STOCKTON, CAL. 'Phone, SUBURBAN 281.

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the **BEST**

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Feeding Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## WEATHER VANES



WAGON and PORTABLE SCALES.

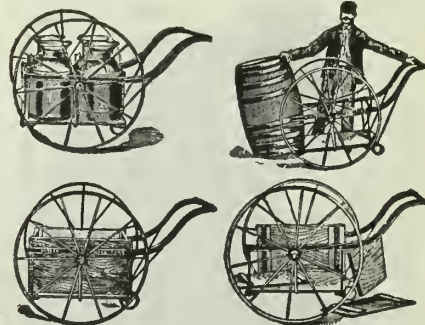
HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.



## No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward Box 25x26x15. Handles barrels or four large milk cans. Steel frame and steel wheels.

HOOKER & CO. 16 & 18 DRUMM ST., SAN FRANCISCO, CAL.

## Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH. Price, \$2 Postpaid.

PACIFIC RURAL PRESS, 330 MARKET ST., SAN FRANCISCO.

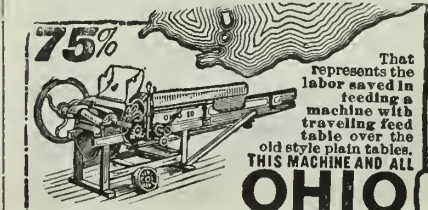
## THE RAISIN INDUSTRY.

A Practical Treatise on Raisin Grapes Their History, Culture and Curing.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hilgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers. Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of \$3.00, postage prepaid. Orders should be addressed:

PACIFIC RURAL PRESS, 330 Market Street, San Francisco, Cal.



FEED AND ENSILAGE CUTTERS

are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts. HOOKER & CO. 16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## ALMOND HULLERS

—For Sale by—

A. O. RIX, Irvington, Alameda Co., Cal.

DEWEY, STRONG & CO., San Francisco, Cal., and Washington, D. C.



# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

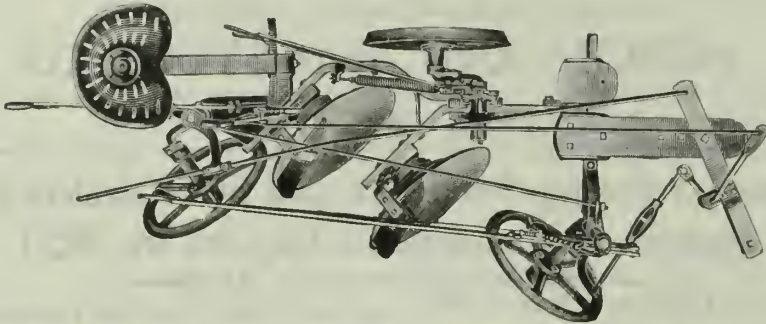
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

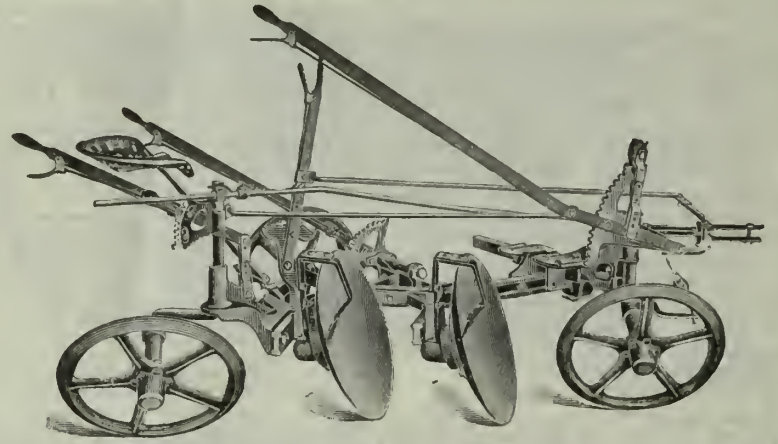
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.

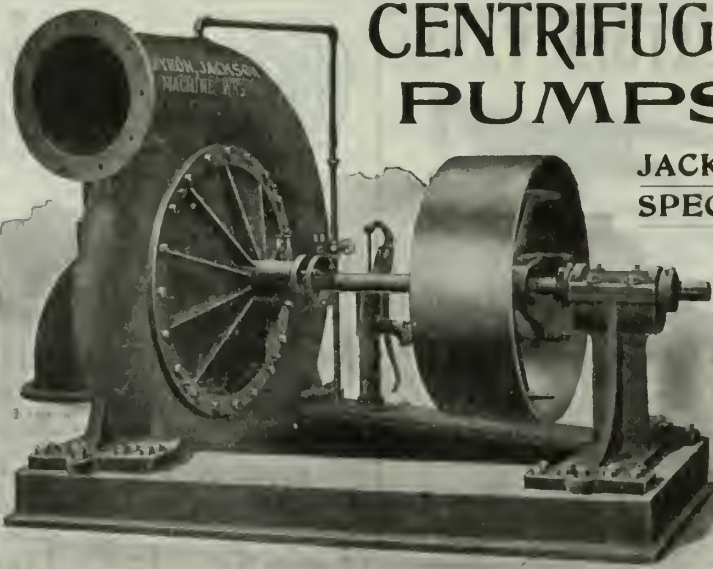


"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



## CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO. Write for Catalogue E.

## HERBICIDE

KILLS

WEEDS AND POISON OAK.

Keeps Gutters and Roadways  
Clean.

## ELECTRIC

## Worm Eradicator

KILLS

SLUGS, BUGS AND GRUBS

OF ALL KINDS

On All Varieties of Plants and Trees.

Don't be skeptical, but write for facts and particulars to the Pacific Coast Agents,

ECCLES & SMITH, 91 FREMONT STREET,  
SAN FRANCISCO, CAL.

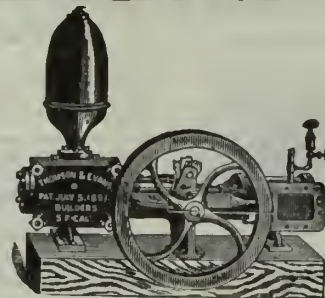
## C. H. EVANS & CO.,

Machine

Works.

Thomson & Evans  
Steam Pumps.

DEEP WELL  
and  
POWER PUMPS.



MARINE ENGINES.

SHIP and STEAMBOAT  
WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St.  
SAN FRANCISCO.

## FRANCIS SMITH & CO.,

—MANUFACTURERS OF—

## SHEET IRON & STEEL PIPE

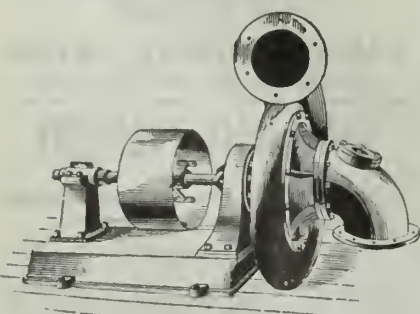
FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.  
83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron out, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

# PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



## PEERLESS

Centrifugal Pumps

—AND—

## Gasoline Engines

FOR ALL PURPOSES.

Complete Pumping Plants Furnished.

SEND FOR SPECIAL QUOTATIONS.

Baker & Hamilton,

SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 13.

SAN FRANCISCO, SATURDAY, SEPTEMBER 26, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## How Prof. Carlyle Judges Cattle and Educates Their Owners.

From the many comments which we have made upon the way an expert single judge educates the listening crowd in stock points no doubt some readers who could not go to the State Fair are curious to know how it is done. By the courtesy of Acting Secretary Lowden we are able to print his stenographer's report of Prof. Carlyle's remarks upon the Howard Estate Shorthorns, except that toward the close he mentions another herd. We illustrate the showing with portraits of some of the prize winners to which Prof. Carlyle refers:

Prof. Carlyle: Ladies and Gentlemen, the class you have here are Shorthorns, all from California. None of the outside Shorthorn cattle are being exhibited. This string belongs to one herd, that of the Howard Estate, and they are one of the most commendable exhibits which you have at the State Fair. As I remember this herd last year and see it this year, it is very hard for me to realize that they are the same cattle or representing the same herd which was here last year; I have never seen a more marked improvement in any herd of cattle in a single

a bull, bred in Ohio and imported into the State as a youngster and is being used in this State to improve the stock. One of the most striking features about him is his remarkable smoothness; you can't see where his shoulder is, there is

and white mixed. In the East we don't care so much about the color, so long as we have the animal; we think they are all the same color when the skin is off.

Now, if you will just bring that cow

difference. This cow is somewhat older, has been in the breeding herd and does not show so smooth as the one we had out a minute ago; but she has that nice sweet eye and countenance which indicates quality—which is just as much an indication of quality in the case of an animal or in the head of a cow as it is in a man's or a lady's. Some of our Eastern breeders, particularly the Scotch people, say they like a "ladylike coo," one of those with feminine expression all the way through, and one that has the refinement of character, which is expressed just as much in a brute as it is in the human family.

Now, let us have the younger male. This animal is stronger in some respects than the one we had before; he is eighteen months and under twenty-four and comes in that class. He has that peculiar cylindrical form which is the most popular now for meat production. In all classes of animals, I don't care whether it is in the beefing cattle or the hogs or the sheep, or what class of animal is being put on the market, the round or cylindrical form, with no prominences in any part, is the quality we most particularly want. Here is where we get the sirloin steak which you all admire—just about this part of



Chief of Valley View IV—Head of First Premium Herd.



Females Composing the Two Herds.



King Spicy XXX—Head of Second Premium Herd.

FIRST AND SECOND PREMIUM WINNERS IN OPEN AND STATE CLASSES AT STATE FAIR; FROM QUINTO HERD.

year, in any country. The individuals in this herd as you see it before you, are the prize winners, and you see a remarkably smooth, uniform lot of cattle, a credit to any breeder and to any State. Now if you will just lead that head one down this way, please, we would like to see them from the side. This is a two-year-old animal, two years old the twenty-sixth of May. You notice how smooth and even and graceful his lines are and the style and masculine character he has in every part. He is

flesh all over every part of him, and it is nice, mellow flesh, too; you can almost taste a nice juicy steak in your mouth when you are handling him, and he has a color which insures his popularity in California. Last year I think there were only one or two roan cattle here, and some of the exhibitors were very much surprised when they were given a place in the premium list; they thought that Shorthorns, or Durhams, as they are more popularly called out here, should be red in color and not red

out, please, and let us see the cow. Just lead her around a little. This cow is a most remarkably good one; she is an aged cow, and was not good enough to win first place. She is a second-prize cow; she has a color which is probably more popular in the East than the red color. The cow on the right has rather large white spots, and while in California they don't like these white spots, this color as you see it here is the popular color; yet, as I said before, the color does not make so much

the animal; here is where we get the loin steaks, porterhouse and tenderloin—right in here—and the round steak comes out of this part of the animal. These are the high-priced cuts; we get our loin roasts from up here on the short ribs, on this part, and you know that these are the high-priced cuts, and that is the part which we like particularly well developed and well fleshed in all animals. We get the rib roasts in

(CONTINUED ON PAGE 207.)



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, September 26, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—First and Second Premium Winners in Open and State Classes at State Fair, From Quinto Herd, 193.  
EDITORIAL.—How Prof. Carlyle Judges Cattle and Educates Their Owners, 193. The Week, 194.  
QUERIES AND REPLIES.—Shade Trees: Roots for Peaches, 194. Fertilizers for Prunes; Flavors and Savors of California Fruits and Flowers; Place for Bee Keeping; Essex Hogs, 195.  
THE POULTRY YARD.—Tuberculosis in Fowls, 195.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Sept. 20, 1903; Rainfall and Temperature, 195.  
AGRICULTURAL ENGINEER.—Washing Out Alkali, 196.  
THE DAIRY.—The Creamery Operators' Convention; Cattle Protected From Tuberculosis, 196.  
THE IRRIGATOR.—The National Irrigation Enterprise, 196. Relation of Irrigation to Civilization, 197.  
THE STOCK YARD.—State Fair Awards for Horses, Sheep, Goats and Swine, 198.  
THE VINEYARD.—Imports of Impure Wine to Be Prevented, 198.  
AGRICULTURAL REVIEW.—199.  
THE HOME CIRCLE.—A Statue; How He Worked; Just Be Glad; Billy and the Eagle; The Bridegroom Explained; Pa and the Calf, 200. Trials of a Teacher; He Knew She Would Come Back; Dainty Dishes of Vegetables; Domestic Hints, 201.  
THE MARKETS.—Produce Market; Fruit Markets, 202.  
AGRICULTURAL ENGINEER.—Better Roads Considered by the Transmississippi Congress; Mr. Hutchinson's Observations at the East, 204.  
PATRONS OF HUSBANDRY.—Tulare Grange, 206.  
MISCELLANEOUS.—New Patents, 206.

## The Week.

The feeling of autumn is in the air. Light fogs and frosts are reported here and there, and the prophets scent rain, but still the sun shines and the air is dry, and the latter duties of the fruit harvest are being satisfactorily discharged. Although much fruit has been moved eastward, the record up to Tuesday was 5765 cars, against 5825 at the same date last year—but the slight difference may change sides any day. The two years are in a close race on volume, but the money is on the side of the present year.

The drop of wine grape prices from the rates expected for this year is quite a disappointment to many. The buyers seem to have things their own way, and their strength lies in their claim that a small output of wine this year will help the trade. They are evidently scared by the figures of large planting for the last two years, and dislike to put money in stuff which will have to compete with low value grapes, which they freely predict. This reasoning omits the important consideration that our grape products are constantly growing in demand. The present condition of affairs seems to be largely a reaction from the recent buoyancy of buyers: they are tired out by the overexertion of several years high jumping for grapes and must take a rest this year.

Over a million dollars worth of produce has gone out through the Golden Gate this week. Nearly a third of it was barley; two-fifths of it was canned goods, etc.; only a tenth wheat and flour. Wheat is off in Chicago and futures have dropped \$1 per ton here, and spot milling and shipping about half as much. Barley is a little weak on spot, but without decline. A barley charter to Cork for orders has been made at 16s. Clearances include three full cargoes of barley—two of barley and wheat and one of barley and miscellaneous, mostly canned goods. Oats are quiet and easy, except black, which are wanted for seed. Alfalfa is in demand, but supply is scant. Large white beans are booming at an advance of \$10 per ton, owing to large Eastern orders. Limas are advanced, but not so much as large white. Other beans are firm. Millstuffs are quiet and bran tending downward. There is no change in hay, which is firm for high grades and weak for low,

which are being pressed into sale. Beef is unchanged; mutton is lower; hogs are firm for packers' sizes. Butter is stiff for fancy fresh, and there is a bull pressure for advance, which is probable. Cheese is unchanged, slow and weak, except for fancy fresh. Select fresh eggs are firm. Poultry was strong until seven carloads of Eastern collided with the extra California supplies for the Jewish holidays and forced down values. All is now quiet and lower. Potatoes are in heavy receipt and light demand favors buyers. Onions are slow and unchanged. Fresh fruit supplies are shrinking except apples, which sell fairly if of good shipping grade. Lemons are quiet and barely steady, while limes are lower. Dried fruits are strong and offerings small. Fancy pears and cheap peaches are scarce—the demand striking opposite ends of the two fruits. More old prunes have gone to Germany, but new go slowly, as prices are above buyers' views. Some walnuts are being taken for the holiday trade. Honey is held high and buyers are shy. Hops are firm and quiet. Wool scouring is beginning again on country purchases. The local market is steady.

We give such space as we can allow in this issue to what seem to us the most pointed selections from a few of the leading addresses delivered at the Irrigation Congress at Ogden, and we shall have other matters later. The meeting was a remarkable one from all points of view. Nearly 1500 people were in constant attendance—some days having three sessions. Twenty-eight States and Territories were represented by regularly accredited delegations, which means, of course, that the interest in irrigation has far outreached the limits of the arid half of the country. The fact was that States even on the Atlantic seaboard participated in the convention, while the great Mississippi valley was largely represented. It is becoming clear not only that irrigation is coming to be widely recognized as of value in the humid half of the country as supplementary to summer rains, but that water storage near the sources of streams is being looked upon as a prevention of the frightful and destructive floods which have desolated so many Eastern regions during the last few years. The Irrigation Congress is ceasing to be local and sectional, but has field and scope over the whole face of the country. This is rather a surprise, but is genuine, nevertheless.

Much of the time of the congress was naturally spent in exalting the advantages of irrigation as a reclamation enterprise. Universal satisfaction was expressed over the national irrigation law, under which there is now about \$16,000,000 available for government reservoir building, as stated in last week's PACIFIC RURAL PRESS. There arose an issue, or at least a difference of opinion, whether the country should be content to proceed under this law, apply this sum of money to its uses, and avoid the result of demonstration of the practical results of reclamation, or whether it should begin an agitation for a much larger sum by appropriation, so that greater reclamation could be speedily undertaken. The congress, by its votes on resolutions, evidently believed that proceedings upon the existing basis would be best for the present. This seemed to be most commendable as keeping good faith with the country at large, which has practically given its interest in the public lands for the promotion of the States in which they are located. It is also commendable because success with the smaller undertakings will make larger ones seem more reasonable, and the Government may provide for them with fuller assurance.

The sharpest issue of the congress came over the existing land laws. Theoretically there was strong ground for the repeal of these laws, because they are being used to such an extent against the public interest. But when the proposition came forward it was violently opposed by some States in which even the abused laws are promoting development apparently essential to the prosperity of the regions involved. It seemed also desirable that the laws should be allowed to continue, as they furnish the means by which the great reclamation and settlement experiments are to be carried out. Another consideration to the same end was that to stop sales of public lands would be to make an extravagant profit for those who already held immense grants of

these lands, or millions of scrip by which the lands could be had, even if the Government stopped its sales. And so the conclusion of the whole matter was a compromise to the effect that Congress should be urged to safeguard the laws better against frauds and to make it harder for those who abuse the privileges which adhere to their citizenship. Thus the matter was settled by a good vote, and a recall of the vote would have given a much stronger affirmative.

## QUERIES AND REPLIES.

### Shade Trees.

TO THE EDITOR:—About two years ago the members of the Sonoma Valley Woman's Club planted shade trees along the walks of the town. A year ago we hired a man to prune the trees, being mostly locusts, elms and maples. Where can we find information on growing trees for shade? Should shade trees be pruned in the same manner as orchard trees? Don't you think figs and walnuts better for shade trees than those we have planted? We find the locusts, etc., growing wild, and the others we would have to purchase. Some of the members think the boys would ruin the trees climbing among the branches. Others think that when the trees are old enough to bear fruit the boys cannot do much damage.—ALICE WAGNON, Cor. Sec. S. V. W. Club, Sonoma.

Shade trees along streets and avenues should be allowed to take their natural forms as far as possible. There is one reason why pyramidal conifers should seldom be chosen for such places. The requirements of the street are such that the lower branches should be removed and a clear trunk secured. To remove the lower limbs of a pyramidal conifer is tree butchery, consequently trees which naturally make a spreading crown and a clear trunk should be chosen. Enough pruning must be done to raise the head so that the branches do not interfere with traffic and passage. It is emphatically undesirable that avenue trees should be cut back to an artificial form as fruit trees have to be. It is sometimes desirable to cut back or to remove branches which go astray, but there should not be regular pruning to make a form unnatural to the tree. If you wish low trees choose those which do not naturally grow high. If you do not wish such dense shade choose those which naturally make a slim form, etc. Your locusts, elms and maples should be allowed to assume their beautiful natural shapes. Fig and walnut trees are suited to broad avenues but never to narrow streets—they are too rangy. The old trees are not much hurt by the boys and the fruits seem to satisfy a natural craving of their natures. Most boys will neglect better fruit at home to whale off the fruit along the roadside, especially if there is a crusty old property owner near by to chase them. One objection to your locust trees grown from suckers is that a tree from a sucker is more apt to grow suckers than a tree from a seed, and thus make the street and adjacent property untidy. We would buy good seedling trees from nurserymen rather than use suckers of any tree. Good trees are cheap enough now, so that it does not cost much to get the best.

### Roots for Peaches.

TO THE EDITOR:—Is the almond root better for medium dry ground than the peach? Is it less liable to root disease? Does the peach do well on almond root? How is the myrobalan root on medium dry ground, and does the peach do well on the myrobalan? What is the best white drying peach that ripens in August. Where can I get the best iron headgates for a water ditch?—A SUBSCRIBER, Henleyville.

The almond root is stronger in growth and deeper in penetration than the peach root in soil which is free and deep, but under rather trying soil conditions it is not hardier than the peach root. It is more sensitive to standing water for instance. It is even more subject to root knot than the peach. The peach usually does very well on almond if the almond root is in good condition. The myrobalan root is very hardy both against excess and shortage of water, but the peach does not grow well on it as a rule. Morris White is a good white freestone, and McKevitt's Cling is a good white clingstone. We cannot tell which is the best iron headgate. Perhaps some reader can.



Fertilizers for Prunes.

To THE EDITOR:—Would it be desirable to have my orchard soil analyzed, as I am anxious to know what kind of fertilizer to put on the land? I have prune trees in my orchard, and the fruit is getting small and also hard to get off the trees, and is not sweet enough. Thomas phosphate is being used in this vicinity.—C. W. P., Santa Clara county.

It would probably be unnecessary to have an analysis made of the soil which you mention. The fact that your prunes are getting smaller and the tree otherwise becoming weaker in growth indicates that you need nitrogenous fertilizer in connection with the phosphate one. This can be secured by a good application of barnyard manure at the beginning of the rainy season, if you have it available, or if you have to buy the fertilizer, order from the manufacturers one containing nitrogen as well as phosphoric acid. Thomas phosphate is all right for phosphoric acid and can be safely applied at the beginning of the rainy season and plowed in. If your nitrogen comes from tankage it can also be applied earlier in the winter than would be safe for the use of nitrate of soda, because it is less soluble and not subject to loss by drainage. In order to test the matter practically you should apply this fertilizer containing nitrogen and phosphoric acid to a portion of the orchard, leaving, however, some trees which will not be reached by the fertilizer, so that you will have a demonstration as to the efficacy of it. We suppose you are satisfied that your trees have water enough to make good large fruit. If not, irrigation is the first thing to be tried.

Flavors and Savors of California Fruits and Flowers.

To THE EDITOR:—It is quite frequently said that the flowers of California, particularly the rose, while handsome in size and color, are lacking in the fragrance of Eastern and European blossoms. It is also said that the fruit, especially the strawberry, apple, pear and peach, while magnificent in color, are wanting in flavor. If such opinions are unwarranted by the facts, will you please enumerate some authentic facts, such as may have been obtained from tests, competitive exhibitions and extensive scientific observations, which tend to or conclusively prove the equality or superiority of the California products?—AGRICOLA, San Diego.

This is a matter exceedingly difficult to determine, and generally must be settled by each one for himself. Even the chemistry of it is very difficult and limited. The human senses have not yet been displaced by any apparatus and the chemist has constant use for his in connection with his other agencies. Our own observation is that most criticism of California fruits and flowers is banished when the critic visits his old standards after California experience. Sentiment, memories of childhood and the appetite of youth exalt the old and belittle the new, until the East is revisited, and then nothing there is seen to be as it was conceived to be. In our roses there is a difference here, because we largely grow tea roses, while they largely grow varieties with the distinctively "rose smell." Our fruits, when fully ripe, are full flavored. Some have a distinct and different character, however. The whole matter is one of taste, concerning which disputes are unprofitable.

Place for Bee Keeping.

To THE EDITOR:—I desire to take up land and start into bee raising, and gradually work into small stock. Can you tell me anything about the best locations, what the cost would be to get started, etc.?—READER, Oakland.

The two great honey districts of the State at present are the mountains of southern California and the upper part of the San Joaquin valley. There are good locations at a hundred points probably in these districts. We cannot undertake to specify, nor do we know them all. The way to get definite facts and prices is to advertise in the PACIFIC RURAL PRESS that you wish such business information.

Essex Hogs.

To THE EDITOR:—Will you please give me the name and address of some one who has the hairless Essex hogs?—FRED WEAKLEY, Bates, Madera county.

There were some Essex hogs bred in California in past years and some of our readers may know of them. They have been largely, if not wholly, displaced by other breeds in this State, as our advertising columns show.

THE POULTRY YARD.

Tuberculosis in Fowls.

By DR. A. R. WARD, Assistant Professor of Veterinary Science, University of California.

In accordance with the provisions of the law creating the California Poultry Experiment Station, and in compliance with the oft-repeated request of poultrymen, investigations have been made during the present summer on poultry diseases. Dr. V. A. Moore of Cornell University and the writer have made frequent excursions in the poultry raising districts, and have, through the courtesy of many interested individuals, obtained diseased fowls. Examinations of these have been made in the bacteriological laboratory of the University at Berkeley.

One of the conclusions drawn from the summer's work is that tuberculosis in fowls is one of the important diseases. While much remains to be done in the way of practical tests among the flocks of fowls, the time has come to present the available facts to poultrymen.

The symptoms in the last stages of the disease are well marked and easily recognized. The bird becomes excessively poor in flesh and frequently is lame, while the comb and wattles are pale. Up to the present time the writer has picked out diseased birds by the fact that they were either lame or showed noticeable peculiarity in gait. Excepting the rare cases of broken leg, such fowls have been light in weight and the breast bone has been very prominent, owing to the wasting away of the breast muscles. In some cases the lameness has been attributed, by the owner, to rheumatism, but the existence of advanced tuberculosis, shown on examination after death, argues against this supposition.

In practically all of the fowls examined the liver and spleen have been found to be diseased. The liver is enlarged and filled throughout with yellowish white masses, varying in size from mere points to lumps the size of a pea. Poultrymen who have taken the trouble to open up dead fowls have noticed the increased size of the liver and have called the disease "big liver." The spleen, which in health is a purplish colored organ about 1/4 inch in diameter, is diseased in a similar manner in most of the cases, and frequently is enlarged to several times its natural size. When a fowl is opened up, lying on its back, this organ is found beneath the liver. In quite a few cases tubercles (lumps) are found distributed along the intestines and on the membrane which suspends the intestines from the back. Some of the diseased growths on the intestines are hollow and connect directly with the interior of the intestine, a condition which permits the ready discharge of diseased material. The lungs are very rarely affected.

Tuberculosis is caused by the growth in the diseased organs of a germ called the tubercle bacterium. A microscopic examination of the contents of the cavities, above mentioned as opening into the intestines, revealed the presence of the tubercle germs. Such conditions permit the ready distribution of disease-laden material by affected fowls. Healthy birds eating material contaminated by these infective discharges contract tuberculosis. So long as any diseased birds are in a flock, or so long as any of the germs remain alive about the poultry yards or houses, new victims will constantly be stricken with this highly infectious disease.

No medicine is known to be a cure for tuberculosis, nor can any be recommended as a preventive.

Tuberculosis must be controlled by keeping the healthy away from the diseased ones, for the disease will not develop unless the bird has been exposed to the disease by contact with victims of soil contaminated by them. In the case of cattle the tuberculin test, so well known among dairymen, may be relied upon to designate the diseased ones long before the trouble could otherwise be recognized. This test applied to hens would occasion an immense amount of work in applying it to large flocks, and further, its use has not yet yielded satisfactory results in the writer's hands. In consequence there at present appears no practical means of weeding out birds affected with the disease in early stages.

This being true, all the individuals of an infected flock must be regarded as possible sources of danger to healthy birds. Taking advantage of the experience in the control of tuberculosis in cattle, we can rest assured that a flock of healthy birds can be raised if constantly kept from contact with tuberculous birds and on land that has not recently been contaminated with diseased ones. The useful life of a hen is so short that there is justification for believing that such a procedure would in three or four years result in the eradication of the disease. In the consideration of such a plan the question arises as to whether or not the disease is inherited. In other words, are the germs of tuberculosis ever implanted in the egg before laying, thus infecting the chick early in life? The writer has not observed this disease in young chicks, and for the present holds the belief that such infection is at least uncommon. Furthermore, it is known that hens seriously affected with tuberculosis do not frequently lay. Among some thirty hens examined up to date, only one laying hen has shown tuberculosis.

In some chicken ranches where the disease is

prevalent all of the available land is already utilized for fowls, which fact would necessitate fencing off a piece of the infected land for separating the young stock from the old infected ones. Such a procedure would involve the disinfecting of land and buildings to kill the germs of the disease. Buildings could be readily cleansed by some of the preparations already employed against mites, but the disinfection of extensive areas of land offer a more serious, but by no means insurmountable obstacle. Sunlight can be depended upon in time to kill the germs of tuberculosis in the surface layers of the soil, but just how quickly this can be accomplished remains to be determined.

It is believed that the spread of the disease among flocks of diseased fowls might be lessened by weeding out all hens that are poor and have pale combs. These might be kept in a separate enclosure until their gradual decline or recovery decides the question whether or not they are diseased.

For ascertaining the most practical means for controlling the disease it is necessary to conduct some tests in co-operation with poultry men, and to that end the writer desires to correspond with interested individuals.

Berkeley, September 23.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 21, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

SACRAMENTO VALLEY.

Clear, warm weather prevailed during the week, with light northerly winds. Fruit drying and raisin making are progressing satisfactorily. The second crop of grapes is ripening and the yield is reported heavy. Large quantities of wine grapes are going to the wineries and heavy shipments of table grapes continue. Prunes are said to be a light crop in some sections. Nearly all other deciduous fruits have been gathered, and dried peaches, prunes and pears are going East in carload lots; all fruits are of excellent quality. Citrus fruits look well and it is reported that oranges in Oroville district are beginning to ripen. Hop baling continues. Corn is in good condition. Dry feed is scarce.

COAST AND BAY SECTIONS.

The weather during the week was nearly normal. Fogs prevailed in the coast districts and light frosts occurred in Lake, Monterey and San Luis Obispo counties. Forest fires caused considerable damage to timber in Santa Cruz and Sonoma counties. Conditions were generally favorable for fruit drying and ripening grapes and late fruits. Grape harvest is progressing rapidly and the crop is reported very good; heavy shipments of Tokays are being made from Vacaville. Prune drying is nearly completed in San Benito county, where the crop is about average. Apple picking is in progress. Some of the walnut groves near Peachland are badly damaged by blight. Bean harvest is progressing rapidly; the crop is turning out better than expected in some sections. Corn and potatoes in Sonoma county are reported light.

SAN JOAQUIN VALLEY.

Clear weather, with moderately warm days and cool nights, prevailed during the past week. These conditions were favorable for harvesting and curing the raisin and prune crops. Prune drying is progressing rapidly; the crop is light but of good quality. The grape harvest is in full progress; the first crop of raisin grapes has nearly all been picked in some localities, and some of them are ready for the sweat boxes. Table grapes are being marketed in large quantities, and wineries are busy crushing Zinfandels. Almond harvest is well advanced, and some are being shipped to market.

SOUTHERN CALIFORNIA.

The weather during the week was generally warm and clear in the interior and foggy along the coast. Grape picking is progressing in nearly all sections; the yield is reported good. Raisin curing and wine making continue. Prune harvest is in progress near Ontario. Apples are nearly all gathered and the yield is very satisfactory. Oranges are doing well and the prospects are good for a large crop. Bean harvest continues; the crop is reported good. Sugar beet harvest in Ventura county will be completed about October 1st. Corn is of good quality and yielding better than expected. Late potatoes are doing well. The heavy grain crop is being shipped and stored. Irrigation water is low in some places.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 23, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the Week.	Minimum Temperature for the Week.
Eureka.....	.01	.79	3.39	1.21	62	50
Red Bluff.....	.00	.00	.54	.54	62	54
Sacramento.....	.00	.00	.24	.24	60	50
San Francisco.....	.00	T	.26	.26	60	50
Fresno.....	.00	.00	.23	.23	59	53
Independence.....	.00	.00	.30	.27	68	52
San Luis Obispo.....	.00	.00	.27	.27	62	46
Los Angeles.....	T	T	.13	.13	76	54
San Diego.....	.00	T	.92	.10	84	60
Yuma.....	T	.04	.11	.62	100	62



## AGRICULTURAL ENGINEER.

### Washing Out Alkali.

Our readers are familiar with the experiments undertaken by the experts from the Department of Agriculture at Fresno to reclaim the soil from alkali. The land was selected because it was a particularly bad piece and absolutely barren. The alkali salts were brought to the surface by excessive irrigating. The tract was underlaid with tiles and then flooded, so as to wash the alkali through the soil and thus drain it off.

The committee from the Chamber of Commerce visited the tract last week, and found that the land was growing sorghum and Egyptian corn, and next year would certainly raise a crop of alfalfa. A drainage district 40 miles square is being formed, to cost \$260,000, and the committee states its belief that it is the only method to keep the alkali from eventually ruining this now highly productive district.

**OUTLETS FOR THE DRAINAGE.**—A question of much moment is, of course, an outlet for the water which has taken off the alkali from the soil. At Fresno, a drainage system for the particular region in question has been worked out by the irrigation investigations branch of the Department of Agriculture, a law was passed at our last Legislature for the formation of drainage districts, and that work will be pushed hard during the coming months.

**IS IT POSSIBLE TO DRAIN INTO WELLS?**—A very important question in some places will be whether flooding out alkali can be done where there is no drainage system, and people will be glad to know under what circumstances wells will be available for this purpose. In a recent issue of the Orange Judd Farmer, Mr. C. G. Elliott, the drainage expert who worked out the drainage plan near Fresno, gives the following very interesting statement:

**UNDERGROUND DISPOSAL OF DRAINAGE WATER.**—The topic brings up a question which has frequently occurred to enterprising land drainers, and attempts have been made to use open gravel strata found in some localities beneath the surface for the disposal of drainage water. There are instances of successful work of this kind, but it has been confined, as far as I know, to the drainage of small areas, perhaps not larger than twenty acres, by means of tile drains, the water from which has been relieved from all sediment by passing through the soil. In the early practice of drainage in England, Elkington found in some localities that he could dispose of soil water by means of boring made to gravel below. It should be said that his peculiar art, for which he became noted, consisted in tapping underground water which saturated the soil above it, bringing it to his drains, and leading it away by gravity to a proper outlet.

One difficulty of disposing of water through wells is in ascertaining the capacity and permanency of such an outlet. If a bed of coarse gravel can be found which has some free communication with a surface or underground stream, and drainage water be delivered to it free from sediment, it may be utilized and serve as a lasting and efficient outlet. Many of these underground gravel beds, however, are in basins which have a considerable reservoir capacity with only a small free outlet. When the reservoir becomes filled, its capacity is limited by the size of its discharge.

If, for instance, we discharge into it 6 cubic feet per second, and it can care for only 3 cubic feet per second, we have an outlet which is inadequate and soon becomes useless. This condition is apparently encountered in many of the irrigated sections which depend upon the reservoir of dry gravel or soil underneath the surface to take care of such waste water as may pass through the porous soil in the process of irrigating to the lower depths. This gives perfect relief until the quantity of water which finds its way into those depths exceeds their capacity, when the work must be supplemented by artificial drainage.

**USING WELLS FOR DISCHARGE BASINS.**—The theory is, and it is well sustained by practice, that where water is pumped from a well which is supplied by an undercurrent or vein the same quantity may be discharged into it without raising the water surface of the well. How much more such a well will take is a matter of mere conjecture, and must remain so until results are obtained by actual trial. I have personal knowledge of a common house well which received and cared for a 2-inch stream of waste water from pumping works for four years, and was continuing to do so at last account, but the well was within 200 feet of a stream and was sunk to river gravel. Streams are known which disappear in sand beds or rock crevices and emerge at a lower level.

These instances, as well as the fact that wells have been occasionally successfully used for small systems of underdrains, indicate that underground outlets may be used if they can be found. As is well known, the result of sinking wells in some localities is to bring water toward the surface with such force as to preclude their use for the reception of surface water.

What is known as the dry well sunk into open gravel is the one best suited for the purpose.

The problem assumes a more perplexing nature when we consider the disposal of surface water in large quantities. The uncertainty of the capacity of any subterranean outlet until it has been ascertained by costly experiment, lends but little encouragement to such undertakings. Especially is this true when we attempt to relieve a tract of considerable area from rainfall which is at times excessive. Lagoons and swamps, by reason of their location, usually gather water from a considerable area outside of their recognized boundaries, making an outlet with variable flood capacity of prime importance. In fact, it is a problem which taxes the skill of engineers to the limit by reason of the varying quantity of rainfall and those climatic conditions which occasionally bring about unforeseen contingencies greatly affecting land drainage.

**DIFFICULTIES MET WITH IN FILTERING.**—Could an outlet of sufficient capacity be secured by means of wells, the difficulty of screening or filtering the water so completely that the receiving gravel in the wells would not become clogged by sediment would be a formidable one. Considering a small lagoon of 500 acres only, it might be necessary to remove 1 inch in depth of water each twenty-four hours for a time from the surface. This would require the filtration and removal of 1,500,000 cubic feet of water every twenty-four hours, or 17½ cubic feet per second. There are locations where at times this capacity might be required, but, of course, it is a flood example and should be considered as such.

The rational treatment of such cases where it is desired to utilize underground outlets is to first ascertain if a water-receiving bed can be reached at a practicable depth, and by various tests determine if these wells will care for any considerable quantity of water. A single line of tile might be discharged into a test well and the effect noted. If the result should be encouraging, other wells could be sunk to the same stratum at several points on the tract, which could be made the outlets for small systems of underdrains, the object of the work being to discharge all drainage water through underdrains into as many separate and scattered outlets as possible.

The service will be more likely to be lasting and efficient if this can be done, and the water will be filtered in the best possible manner. Drains which are laid in clay subsoils discharge nothing but clear water after they have been laid a month or two and the clay has settled compactly about the tiles. Where the subsoil is loose or sandy, however, there will always be some silt carried by drainage water, especially after a heavy rainfall.

## THE DAIRY.

### The Creamery Operators' Convention.

This energetic association carried out quite successfully the programme which we published in the PACIFIC RURAL PRESS of September 5th. The more popular papers presented will appear in our columns later. The following items are of immediate interest:

**THE BUTTER PRIZES.**—The judges were Prof. E. W. Majors of the State University and W. H. Roussel of San Francisco. John Carlson of Rough and Ready won the first prize, the percentage of his butter being 99½. The second prize was awarded to J. M. Kieser of Hollister; R. Pozzi was third, Frank Hyde fourth and George Knox of Sacramento fifth.

**RESOLUTIONS, ETC.**—The convention adopted resolutions asking the Legislature to help control the sanitary conditions of the dairies. A resolution was also adopted thanking the State University for work it has done in the dairy line. The convention also thanked the State Agricultural Society for the interest it had manifested in working up the dairy exhibit. The executive committee was requested to procure exhibits for storage as well as fresh butter for the next annual convention.

The following were appointed to arrange for an exhibit at the St. Louis Exposition and an excursion: Messrs. Hill, Lyon, Fitzpatrick, Knox, Hageman, Majors, Roussel, Hodge and the secretary.

**OFFICERS.**—The following officers were elected and committees appointed: President, George Knox of Sacramento; first vice-president, E. Hageman of Fresno; second vice-president, J. Hovey of Los Angeles; secretary, W. H. Saylor of San Francisco. Executive Committee—E. H. Zimmerman of Watsonville, H. Glasier of Oakland, Warren Myers of Woodland. Membership Committee—John Carlson, Rough and Ready; L. Severin, Modesto, and L. J. Siple, Point Arena.

### Cattle Protected From Tuberculosis.

Prof. Koch has announced in Berlin the successful conclusion of his experiments in connection with bovine tuberculosis. He has discovered a means of rendering cattle positively immune from tuberculosis infection. Dr. Neufeld, his chief assistant at the Prussian Institute for Infectious Diseases, reports

that Koch for two years has inoculated hundreds of animals with tuberculosis bacilli taken from human beings. None of the animals sickened even after the administration of large doses. Koch, in a signed statement in August, 1901, assured the medical world that experiments were all that was necessary to prove the correctness of his theory.

## THE IRRIGATOR.

### The National Irrigation Enterprise.

From the address of UNITED STATES SENATOR W. A. CLARK of Montana, President of the National Irrigation Congress, at the opening of the eleventh session at Ogden, Sept. 15.

We have passed the first mile post and have scored a great victory. "Nothing succeeds like success" is a trite but true aphorism. For ten years the friends of irrigation worked earnestly and hopefully, but their efforts were retarded by opposition and discouragements. But at last, having secured an impregnable position, they will summon all their energies and wisdom to lay out, expand and perfect the plans which have been outlined, which will result in building up a great agricultural and industrial empire in the western zone of the republic.

**RETROSPECT.**—It is eminently appropriate, both from an historical and practical standpoint, that Utah should have this convention within her borders, as here was the cradle of the agitation of the irrigation problem in relation to government aid. This led to calling a convention of all interested in the subject, which met at Salt Lake City twelve years ago this very day. I had the honor of being one of the delegates from Montana to that convention, and I see quite a number here to-day who participated in its deliberations.

There was a great variance of opinion as to the feasibility of the Government ceding the public lands to the respective States and allowing them to control the irrigation problem. Many plausible arguments were adduced and ably presented in favor of that plan. I believe that now it is almost universally conceded that the system embodied in the present law is the best. Moreover, there are some interstate questions touching water rights involved, which under the cession plan could not be reconciled. The legislation now secured is the outgrowth of the agitation which was inaugurated here in Utah; and to the people of this State, to the organization here effected, to the National Irrigation Association, and to the constant devotion and individual effort of a large number of enthusiasts, is the country at large indebted for the happy culmination which gave to it the act of June 17, 1902.

**THE MOVEMENT.**—It was in Utah that the first extensive application of practical irrigation in the United States was made for general agricultural purposes. In parts of California, Arizona and New Mexico, before these Territories were acquired from Mexico, there were sparsely settled areas that were irrigated in a limited way for pasture purposes. When in 1847 Brigham Young and his followers made their way across the plains and selected the magnificent valleys of Utah as their abiding place, they appropriately called the region Deseret. Only one thing lacked to meet the requirements that the name would imply. The wonderfully fertile soil, with only the natural moisture which the heavens supplied, refused to yield the expected crops, so that it became necessary to divert the streams to water the land, when indeed they caused the apparent desert, as if by magic, "to blossom as the rose." Thus the Mormon people became the pioneers in the practice of irrigation and paved the way for the development of all this great intermountain region, which their presence here and activity hastened and facilitated much more than is generally known or appreciated.

**THE NEW LAW.**—Not even the law providing for the construction of the great Pacific railways has meant so much for the great West as the one providing for the reclamation of the arid lands. It opens up a new era of prosperity for sixteen States and Territories. It provides the means for overcoming aridity, the great obstacle that has retarded the settlement of more than one-third the area of the republic.

It is estimated that there remain in the arid and semi-arid zones about 600,000,000 acres of vacant public land, and that there is sufficient water available under the storage system to irrigate about one-sixth of it. The area already occupied and irrigated is 6,500,000 acres. If in the next thirty years the Government should provide reservoirs sufficient to reclaim 20,000,000 acres, at an expenditure of \$10,000,000 annually, which is a very conservative estimate, as that amount will be easily realized from sales of land, the land reclaimed will provide homes for at least 12,000,000 to 15,000,000 people, which, with the immense property values necessarily created, will constitute a magnificent contribution to the wealth and glory of the nation. It was a narrow and selfish motive that prompted any opposition to irrigation legislation on the ground of possible competition with Western farm products. Happily, that prejudice soon disappeared. As to competition for a



market for agricultural products, there is none at home or abroad that need give us any concern. The United States is in most respects without a rival on land or sea. She knows something about sailing a yacht, and she can handle a battleship to perfection. Some people have just discovered these things.

**IN ASIA.**—It may be truthfully said that the United States feeds the world. But for her wheat and corn fields there would be starvation in many lands. The destruction of one-half of our grain crops would be followed by famine and pestilence in many parts of the world. Japan is discarding the rice and black bread for American flour, and John Chinaman has commenced to nibble "Uneeda biscuit" and says, "Me heap likee." In 1902 we exported agricultural products of the value of over \$857,000,000, of which the United Kingdom took about half. At the same time Japan took over \$12,000,000, and this amount will be doubled very soon.

Mr. Hill has shown his faith in the prospects of a large Oriental business by building a number of the most gigantic freight vessels for that trade that have ever floated. No matter what we raise, or in what locality, there will always be a ready market for it. Through improved channels of communication each year brings the Orient nearer to our doors, and our Asiatic neighbors must soon feel the quickening touch of Yankee enterprise, when they will arouse from the lethargic slumber that for centuries has deadened their energies, and with more cultivated tastes will require large quantities of our commodities. Therefore I conclude that with the improved facilities for cheap and rapid distribution, and considering the world's ever-increasing demands, there can be no apprehension as to overproduction of staple products. Hence it is evident that the only limitation to the expansion of profitable production in the arid belt is that of the available water supply. In a few years we shall see marvelous results.

**SUGAR.**—I will mention one product by way of illustration. The States and Territories embraced in the provisions of the reclamation act are capable of producing inside of ten years every pound of sugar consumed in the United States, unless Congress, through a mistaken sentiment of sympathy, should turn all this business over to Cuba and wipe out this promising industry in our own country. I am pleased that we have the honorable Secretary of Agriculture with us at this Congress. He has been a steadfast friend to help us secure favorable legislation for irrigation, and is equally loyal to the beet sugar industry.

**PUBLIC LAND LAWS.**—If only Congress had passed the irrigation act instead of the desert land act many years ago, it would have been a godsend to the Western country, and it would at least have prevented the wholesale acquisition of immense areas controlling largely the streams and sources of water supply—in some instances by questionable methods—to the exclusion of actual settlers. In many cases the actual requirements of the law were not complied with, and the prevailing sentiment is that Congress should make haste to wipe that law from the statute books. The commutation feature of the Homestead Act has been wisely eliminated in the recent Act to prevent speculation and protect the actual settler. The whole Act contemplates the cultivation of small farms and closely settled communities. This is conducive to social and intellectual culture, and farm life promotes good citizenship.

The immigrant who comes to our shores and strikes for the West, gets a piece of land, and makes his home there, in the course of time becomes an ideal citizen. His children go to school and learn our language, and in a short time the whole family becomes Americanized and imbibes the American spirit of patriotism. But as to the immigrants now coming in vast hordes from central and southern Europe to this country, who, when they land, settle in foreign colonies in the large cities, or drift out along the channels of industrial activity and settle in communities in the iron and coal and manufacturing districts, retaining their customs, habits and language, it is impossible that these people can be assimilated and Americanized, and such immigration should be prohibited or at least restricted.

**THE IRRIGATION ACT.**—Preliminary operations under the irrigation act have been widely distributed over the arid States and Territories. Fortunate it is that the work to be done is under the authority of departments of the Government whose chiefs are friendly to the cause, and, above all, that the President himself is an enthusiast on the subject of irrigation and has done everything in his power to promote its advancement.

According to the reports of the Interior Department, the amounts covered into the Treasury, available under the Act, were in 1901 over \$3,000,000, in 1902 about \$4,500,000, and in 1903 nearly \$8,000,000, making an aggregate of over \$16,000,000 now available, and showing a remarkable increase from year to year.

Under instructions from the Secretary of the Interior, particular attention has been paid to five projects, to-wit: The St. Marys in Montana, the Sweetwater in Wyoming, the Gunnison in Colorado, the Truckee-Carson in Nevada, and the Salt River in Arizona.

The progress of this work will be watched with in-

tense interest. A comprehensive report of the reclamation service, beautifully illustrated and accompanied with maps, was issued in December by the Interior Department, which is full of interesting details. It will be found necessary to make some amendments to the law. Questions of this character will be fully discussed in this Congress, whose members are eminently qualified by actual experience to offer valuable suggestions. These will be very helpful to members of Congress in further consideration of the subject, and I have no doubt that resolutions embodying the consensus of opinion of this Congress will be respectfully and favorably considered.

With a brief reference to another important subject, I will close my remarks.

**FORESTRY.**—Forestry and irrigation go hand in hand together, the latter being largely dependent upon the former. The preservation of our forests is of paramount importance. The forest regions of Michigan, Wisconsin and Minnesota have been practically denuded of their timber, and the agricultural States of the West will have to look to the Rocky Mountain and Pacific Coast States for future supplies. Denudation of forests means torrential rain-falls and subsequent drouths.

The Government did not begin the work of setting aside large reservations too soon. However, much remains to be done. Merely marking out boundaries within which timber cutting is restricted or prohibited is not sufficient. Forest fires destroy annually ten times more timber than the reckless hands of men. The dense oceans of smoke that every summer or autumn settle down in the valleys over areas of hundreds of miles in extent, and obscure the heavens for weeks at a time, in Montana, Washington and Idaho and in other States tell the story of destruction. State legislation cannot meet the difficulty. The Government should make liberal ample appropriations to establish patrol systems and provide such other urgent and rigid measures so as to minimize the loss as much as possible. Many millions of dollars' worth of timber in each of these States might be saved each year, and the results will warrant a large expenditure. This subject will no doubt receive earnest attention at this convention.

In conclusion, I beg to assure you, my friends, that I am proud of my identification with this noble work, and I share with you the inexpressible enjoyment of the cordial hospitality of the good people of Ogden, as well as the pleasure of participation in the discussion of the fascinating subject which we are all striving to promote. From the very inception of the movement it has invoked the noblest impulses and the highest aspirations of all who desire to make the earth more fruitful and enjoyable and the people who dwell thereon better and more happy. Its fulfillment is the goal to which we will devote our best energies, and which shall be the inspiration of our fondest hopes for the welfare of the generations that are to follow.

#### Relation of Irrigation to Civilization.

From an address by HON. GEORGE C. PARDEE, Governor of California, at the Irrigation Congress at Ogden.

In some of the valleys of our State of California the observation of a series of years demonstrates a greater loss from excessive moisture than from deficiency. In the progress of scientific agriculture it is just as important that man should control the destructive conditions in order to modify them at either end of these extremes. Any proper system of irrigation is of necessity accompanied by a system of drainage. It is for this reason that irrigation is equally as valuable in countries of heavy precipitation as in countries where the meteorological conditions are such as to deny sufficient rainfall for the annual maturity of crops.

Perhaps the most noted instance of successful agriculture in the world is in the great valley of the Po, a valley presenting a broad stretch of fertile plains in northern Italy. Here irrigation has found its highest demonstration of value; and yet the valley of the Po is not in any respect deficient in rainfall. The annual precipitation in that valley very greatly exceeds that of many portions of the earth where heretofore the declaration of the necessity of irrigation would be regarded as absurd.

**USES OF IRRIGATION.**—But irrigation has other uses and other objects than merely supplying deficiency of moisture. One of its most beneficial uses is the distribution of the moisture throughout the year. There are but few portions of the earth where the annual rainfall is economically distributed throughout all seasons. Fully 80% of the earth's surface is subject to irregular meteorological conditions, and these undirected conditions are wholly inadequate to the necessities of man. The human race has long since passed the stage where natural conditions may be depended upon even for a bare subsistence. Fertility, temperature and moisture are three prime factors of production. If these three were under the absolute control of man, the great fundamental problems of civilization would be mastered. Irrigation may be depended upon to solve two—moisture and fertility.

With the element of moisture under his control,

man has mastered two of the three great forces of production. Scientific irrigation is absolutely indispensable to scientific agriculture. Dependence upon the natural precipitation of any country is at best a barbarism. Just as we are not obliged to longer depend upon the spontaneous production of the earth in order to sustain life, so we will have to abandon our dependence upon natural precipitation as a productive force in every cultivated country. Irrigation, with its necessary concomitant—drainage—is, therefore, as important in one portion of the world as another. It has, however, a greater and more urgent importance in what is known as arid regions, where the absence of moisture is so plainly obvious.

**THE TALE OF TWO VALLEYS.**—With the factor of moisture under the control of man, his control over the creation of wealth is vastly enhanced. Civilization is based upon the existence of wealth, since empires are based upon population. With two of the three factors of production under his control, man can by his will create States, and in the exercise of his power he does most truly resemble the gods. In the ancient world the greatest density of population was found in regions originally desert, because in such regions fertility can be evoked only by irrigation, and wherever irrigation is resorted to the density of population, the existence of great wealth and of empire are always found.

The valley of the Po furnishes a living illustration of this. In the three provinces of Lombardy, Piedmont and Venice, comprising the valley of the Po and its confluences, there are 3,000,000 acres of land under irrigation. The population of this region is over 8,000,000. The climatic conditions of the Po are not favorable to a wide diversity of cultivation. Only in especially favored regions of very limited area is the production of semi-tropical plants possible. Throughout the major portion of this irrigated area the thermometer frequently descends to 10°, and yet 8,000,000 of inhabitants find abundant subsistence in this favored region, and for the sole reason that one of the paramount factors of production is under the control of man.

Let us contrast this with the conditions in the great Sacramento valley in our State of California. The Sacramento valley has a fertile area equal to 6,500,000 acres. It possesses soil of unsurpassed fertility and it lies under a climate conferring the widest range of agricultural and horticultural possibilities. The temperature of that great valley seldom descends to 32° F., and in fifty years' observation has not fallen below 20°. Like the valley of the Po, local configuration confers variety of conditions which must be intelligently mastered if errors of cultivation would be avoided. But when the two regions are contrasted with reference to area, fertility and climatic possibilities, the valley of the Sacramento, under equally intensive cultivation to that of the Po, would support in affluence and comfort, with an assured abundance, 10,000,000 people.

**CALIFORNIA DEMONSTRATIONS.**—Fresno, in the heart of the great San Joaquin valley, furnishes striking illustration of the extent to which irrigation may energize all the attributes of civilization. In that locality a commonwealth of 22,000 prosperous people is based upon 60,000 acres of irrigated land, and the significance of these figures is vastly enhanced by the authentic statement that the banking exchange, generated by the export and import commerce of Fresno, is greater in proportion to the number of inhabitants in that locality than in any other known community.

The Riverside colony of California has an irrigated area of 13,000 acres. These acres constitute the basis of community life to the extent of 10,000 inhabitants, or 1 inhabitant for every 1½ acre. At Riverside abundance is supplemented by the highest embellishments of civilized life. The primitive problem of existence having long since been solved, the higher attainments of human aspiration have been reached, and Riverside would suffer nothing by contrast with any other portion of the world where the pleasing combination of beauty and utility would be under consideration.

The rapid growth of southern California, as a whole, is the most remarkable instance of rapidity of growth, associated with maturity of civilized conditions, to be found anywhere in modern history. Southern California had no primitive nor pioneer conditions. The very foundation of that great commonwealth was laid upon lines so broad as to admit of no other than a noble superstructure, and this unprecedented instance of the community life of southern California and the exaltation of civilized conditions there, which have known no primitive state, is referable to the single fact that the entire superstructure stands upon the advanced art of civilization. Take from the advanced civilization of southern California all that portion due to irrigation, and its splendid cities would relapse into the romance of adobe hamlets, and the tropical luxuriance of its orchards and avenues would revert to their original condition of arid solitude.

**THE NATIONAL LAW.**—When the national irrigation law received the signature of President Roosevelt the United States prepared to take an onward and an upward step in national progress. Territorial aggrandizement by conquest may be the beginning of industrial and commercial expansion, but the



nation which seeks expansion through the evolutionary development of its inherent capabilities has chosen a nobler and surer highway to success. The arid regions of the United States, comprising the territory lying west of the one hundredth meridian, embraces 1,700,000 square miles. If armies had been set in the field for the acquisition of an equal area of territory, we would have regarded it as a formative event in the history of the nation. But the national irrigation law is the beginning of a peaceful territorial conquest of far-reaching significance. No war in which any nation has ever been engaged is fraught with such surety of brilliant achievement in the great office of extending our national possibilities or broadening the basis of our civilization. This is a conquest which involves no expenditure of vast sums of money in the wasteful extravagances of war, nor in the shedding of human blood, and its ultimate achievement will be a victory of peace the splendor of which will not bring less renown than that of war.

## THE STOCK YARD.

### State Fair Awards for Horses, Sheep, Goats and Swine.

(Continued from page 182 of last week's issue.)

#### HORSES.

Thoroughbreds, Class I—Best stallion, B. W. Cavanagh's Ravelston; second, Mrs. O. A. Bianchi's Horton; three-year old, W. B. Sink's The Fog; two-year-old, Mrs. O. A. Bianchi's Inspector Munroe; second, Stanfield & Ellis' Andrew B. Clark. Best four-year-old mare or over, Mrs. O. A. Bianchi's Lavena C.; second, B. W. Cavanagh's Claude T. Best dam and two colts, Mrs. O. A. Bianchi's Lavena and two colts. Best stallion and five colts other than thoroughbreds, Mrs. P. Becker's Zombro and five colts, gold medal. Best dam and two colts, Mrs. E. W. Callendine's Abbie Woodnut, silver medal.

Standard trotters, Class II—Best stallion, Mrs. P. Becker's Zombro; second, S. C. Tryon's Azmoor; third, William Duncan's Kentucky Baron. Three-year-old stallion, Mrs. E. W. Callendine's Guy Nut; two-year-old stallion, James Coffin's Cassian, first; S. U. Mitchell's Peter J. Best one-year-old stallion, Mrs. E. W. Callendine's Sir Carlton. Best mare four-year-old and over, Mrs. L. H. Todhunter's Zombriette, first; Mrs. E. W. Callendine's Abbie Woodnut, second, and Lady Keating, third. Yearling filly, Mrs. E. W. Callendine's Lady Caretta.

Novelty division, Class VI—Best single horse, John Breuner's Pollis.

Normans and Percherons, Class VII—Best stallion, four-year-old and over, Clyde Chipman's Obus, first; R. W. Hanson's Rio Vista, second, and I. Christie's Sampson, third.

Best three-year-old stallion—Oakwood Stock Farm's Vanquisher, first. Clyde Chipman won all the other classes with Romeo, Kalona, Annetta and Alameda.

Clydesdales, Class IX—C. D. Stanton's Raymond, first.

English shires, Class X—W. B. Hardman's Volta, first.

Coach horses, Class XI—Best stallion, four-year-old and over, Oakwood Stock Farm's Regent, first; J. Crouch & Son's Asman, second.

Special stallions, not registered—Three-year-old, H. H. Wilson's Nutwood, first, and Boxwood, second, and R. W. Hanson's Montezuma, third. Best stallion under three years old, Oakwood Stock Farm's Babe, first, and Patriot, second, and W. B. Hardman's Babe Scoption, third.

Miscellaneous, Class XII—Best gelding, Louis Ruff's Prince, first; H. S. Madison's Joe, second, and Mrs. T. B. C. Sienken's Dandy, third; best three-year-old gelding, H. S. Madison's Ned, first, and H. H. Wilson's Joe, second; best yearling gelding, H. H. Wilson's Tom, first, and Louis Ruff's Pete, second; best four-year-old mare, B. C. Trefy's Pet, first; Louis Ruff's Dolly, second, and H. H. Wilson's Kate, third; best three-year-old mare, H. L. Modison's Jane, first, and H. H. Wilson's Lily, second; best two-year-old filly, A. Ennis' Susie, first; H. L. Modison's Mascelle, second, and Belle, third; best yearling filly, A. Ennis' Fanny; best under one year old, A. Ennis' Jessie.

Work team, class XIII—F. Ruhstaller's span of grays.

Draft sweepstakes, class XIV—A. Ennis' May and two colts.

Grade draft, class XV—Best mare with foal at the side, W. B. Hardman's Hattie and colt first, A. Ennis' May and colt second and W. B. Hardman's Queen and colt third; best mare three-year-old, Clyde Chipman's Nellie; best mare two-year-old, W. B. Hardman's Bonita; best colt foal, A. Ennis' unnamed first and John Abbey's Butte second; best team of chunks, Louis Ruff's span of grays first and H. H. Wilson's black and gray second.

Grade coach, class XVI—Best brood mare and foal, H. H. Wilson's Bregadier and filly first and H. S. Modison's Josie and filly second; best mare or gelding, three years old and over, H. H. Wilson's Daisy first and Louis Ruff's Blaze second; best mare or gelding, two-year-old, H. H. Wilson's Collie first and Louis Ruff's Queen second; best mare or geld-

ing, one-year-old, Louis Ruff's Fanny first and H. H. Wilson's Snip second; best colt foal, H. H. Wilson's unnamed first and second.

Non-registered roadsters, class XVII—Best brood mare and foal, H. H. Wilson's Queen and colt first, H. S. Modison's Pet and colt second; best mare or gelding, three years old and over, W. A. Caswell's Light first, Mrs. E. W. Bates' Daturio second, and Henry Mullee's Sister Thorne third; best colt foal, H. S. Modison's unnamed.

Saddle horses, class XVIII—Best saddle horse, Dr. T. J. Cox's King John.

Jacks, class XX—Best three-year-old, Louis Ruff's Diamond first and H. H. Wilson's Cleveland second; best one-year-old, H. H. Wilson's Sob first and Louis Ruff's Dandy second.

#### SHEEP AND GOATS.

Class II—French Merino F. sheep: Ram two-year-old and over, J. H. Glide & Son, Sacramento, Ram 193; one-year-old, J. H. Glide & Son, Sacramento, Glide's Choice; ewe two-year-old and over, J. H. Glide & Son, Sacramento, no name.

Class III—Southdowns: Ram two-year-old and over, Thomas Waite, Perkins, unnamed. Ram, one year old—First, George Bement, Melrose, Ladd No. 136; second, C. C. Perkins, Sacramento, California Boy. Ram, under one year—First, Thomas Waite, Perkins, Veteran Tryon; second, George Bement, Melrose, No. 24; third, Thomas Waite, Perkins, Master Joe. Ewe, two years old—First, George Bement, Melrose, ewe No. 18; second, Thomas Waite, Perkins, Nina I; third, George Bement, Melrose, ewe No. 26. Ewe, one year old—First, George Bement, Melrose, ewe No. 19; second, Thomas Waite, Perkins, Nellie II; third, Thomas Waite, Perkins, Nellie I; Ewe, under one year—First, Thomas Waite, Perkins, Rosa I; second, George Bement, Melrose, ewe No. 57. Flock—Thomas Waite, Perkins, Oregon Boy and four ewes, first; George Bement, Melrose, Ladd No. 136 and four ewes, second. Pen of four lambs—Thomas Waite, Perkins, one pen. Ram of any age—Thomas Waite, Perkins, Oregon Boy. Ewe of any age—George Bement, Melrose, ewe No. 18.

Class IV—Shropshire: Ram, two years old and over—J. H. Glide & Son, Sacramento, unnamed.

Class V—Hampshire Downs: Ram, two years old and over—J. H. Glide & Son's Sacramento Spartan. Ram, one year old—J. H. Glide & Son, Sacramento.

Class VI—Persian: Ram, two years old—C. P. Bailey, San Jose. Ram, one year old—C. P. Bailey, San Jose. Ram, under one year old—C. P. Bailey, San Jose. Ewe, two years old, C. P. Bailey, San Jose. Ewe, one year old—C. P. Bailey, San Jose. Ewe, under one year—C. P. Bailey, San Jose. Flock—C. P. Bailey, San Jose. Pen of four lambs—C. P. Bailey, San Jose. Ram of any age—C. P. Bailey, San Jose. Ewe of any age—C. P. Bailey, San Jose.

Class XIV—Angora goats: Buck, two years old and over—first, C. P. Bailey, San Jose; second, C. P. Bailey, San Jose. Buck, one year old—First, C. P. Bailey, San Jose; second, C. P. Bailey, San Jose. Buck, under one year—First, C. P. Bailey, San Jose. second, C. P. Bailey, San Jose. Buck, under one year old—First, C. P. Bailey, San Jose; second, C. P. Bailey, San Jose. Doe, two years old and over—First, C. P. Bailey, San Jose; second, C. P. Bailey, San Jose. Doe, one year old—First, C. P. Bailey, San Jose; second, C. P. Bailey, San Jose. Doe, under one year—First, C. P. Bailey, San Jose; second, C. P. Bailey, San Jose.

#### SWINE.

Class I, Swine, Berkshire—Boar, two years and over, first, C. W. Reed, San Francisco, Rio Bonita Prince; second, Thomas Waite, Perkins, Baron Victor; third, C. C. Perkins, Sacramento, unnamed. Boar, one year old, first, C. W. Reed, San Francisco, White Lug; second, C. C. Perkins, Sacramento, Fashion Prince; third, C. C. Perkins, Sacramento, Fashion Imperial. Boar, under one year and over six months, first, W. C. Murphy & Brother, Perkins, Prince of Perkins; second, C. C. Perkins, Sacramento, Fashion Duke; third, C. C. Perkins, Sacramento, Emerald Fashion. Boar, under six months, first, C. C. Perkins, Sacramento, unnamed; second, C. C. Perkins, Sacramento, unnamed; third, C. C. Perkins, Sacramento, unnamed. Sows, two years old and over, first, C. C. Perkins, Sacramento, Sacramento Queen; second, Thomas Waite, Perkins, Lady W.; third, C. C. Perkins, Sacramento, Molic. Sows, one year old, first, C. C. Perkins, Sacramento, Belle; second, C. W. Reed, San Francisco, Peg Woffington; third, C. C. Perkins, Sacramento, Fashion Princess. Sows, six months and under one year, first, C. P. Sacramento, Fashion Princess; second, C. C. Perkins, Sacramento, Fashion Heiress; third, W. C. Murphy & Brother, Perkins, Bella Perkins. Sows, under six months, C. C. Perkins, Sacramento, unnamed. Produce of dam, first, W. C. Murphy & Brother, Perkins, Perkins farm and progeny; second, C. W. Reed, San Francisco, Sans Souci and progeny; third, Thomas Waite, Perkins, Lady Gentry and progeny. Get of sire, first, C. W. Reed, San Francisco, Rio Bonita Prince's four pigs; second, C. C. Perkins, Sacramento, Heeler Oxford's four pigs. Boar and four of his get under one year, first, C. C. Perkins, Sacramento, Heeler Oxford and four pigs; second, Thomas Waite, Perkins, Baron Victor and four pigs. Champion boar of any age, first, C.

W. Reed, San Francisco, Rio Bonita Prince; second, C. W. Reed, San Francisco, White Lug. Champion sow of any age, C. W. Reed, San Francisco, Brace Girdle, first; W. C. Murphy & Brother, Perkins, Bella Perkins, second.

Class II—Essex. Boar, two years old and over, George Bement, Melrose, Ohio Major. Boar, one year old, George Bement, Melrose, Eureka Chief. Boar, under six months, George Bement, Melrose, Jeffries. Sow, two years old and over, George Bement, Melrose, Black Patti. Sow, one year old, George Bement, Melrose, Treasures Jim. Sow, six months and under one year, George Bement, Melrose, Black Diamond. Sow, under six months, George Bement, Melrose, Hazel. Boar and four of his get under one year, George Bement, Melrose, Ohio Major and four pigs. Champion boar of any age, George Bement, Melrose, Ohio Major. Champion sow of any age, George Bement, Melrose, Black Patti.

Class III—Poland-China. Boar, two years old and over, W. R. McCaslin, Cosumes, Chief Guy, first; Clark & Bishop, Kingsburg, O. K. I. Know, second. Boar, one year old, first, Clark and Bishop; Black Hawk, second; Clark & Bishop, Eureka, third; P. H. Murphy & Sons' Sunshine, I. K. Boar, six months, first, W. R. McCaslin, unnamed; second, Clark & Bishop, Black O. K.; third, P. H. Murphy & Sons, unnamed. Sow, two years and over, Clark & Bishop, Black Hawk Tip, first; W. R. McCaslin, Midnight, second; W. R. McCaslin, Black Maud, third.

Sow, one year old—First, Clark & Bishop's Black Hawk Prize; second, Clark & Bishop's Black I Am; third, W. R. McCaslin's Fredo. Sow, six months and under one year—First, W. R. McCaslin's Darkness; second, Clark & Bishop's O. K. Lady; third, Clark & Bishop's Beauty. Sow, under six months—First, W. R. McCaslin, unnamed; second, Clark & Bishop, unnamed; third, P. H. Murphy & Sons' Lady I Know. Produce of Sow—P. H. Murphy & Sons' Lady Ideal and pigs. Get of Sire—First, W. R. McCaslin's Chief Guy and four pigs. Boar and four of his get under one year—First, Clark & Bishop's boar and four pigs; second, P. H. Murphy's Sunshine I Know and four pigs; third, Clark & Bishop's K. I. Know and four pigs. Champion boar, any age—First, W. R. McCaslin's Chief Guy; second, Clark & Bishop's Black Hawk. Champion sow, any age—First, Clark & Bishop's Black Hawk Prize; second, W. R. McCaslin's Midnight.

Class VII—Ohio improved Chester—Boar, one year old, Alex. Gordon, Hueneme, Onward. Boar, six months and under one year, Alex. Gordon, Hueneme, Duke. Boar under six months, Alex. Gordon, Hueneme, unnamed. Sow, two years old and over, Alex. Gordon, Hueneme, Jane. Sow, one year old, Alex. Gordon, Hueneme, Bess. Sow, six months and under one year, Alex. Gordon, Hueneme, unnamed. Best boar and four pigs under one year, Alex. Gordon, Hueneme. Champion boar any age, Alex. Gordon, Hueneme, Onward. Champion sow any age, Alex. Gordon, Hueneme, June.

## THE VINEYARD.

### Imports of Impure Wine to Be Prevented.

It is cabled from London that Dr. H. W. Wiley, the chemical expert of the United States Government, as a result of official inquiry, has satisfied himself that only a small proportion of European wines sold in America are genuine. Dr. Wiley has given out the following statement:

"The American Government will probably have to pursue practically the same policy as the British Government under the merchandise marks act, in order to secure immunity from fraud in the importation of foreign wines. The English importers, before that enactment, were flooded with French wines bearing false labels.

"The most competent wine experts in London told me the United States was the dumping ground for all kinds of inferior and mislabeled wines that were unmarketable in Europe. These wines are not only of poor quality, but are sold under names which add immensely to their selling value.

"Investigations so far made tend to show that a large part of the wines coming to our ports under the names of the most valued brands are open to grave suspicions. In fact, the English expert gave his opinion that only a very small percentage is genuine.

"These wines are blended at Bordeaux and other ports of Europe and imitate to some extent the genuine products of Chateaux. Since most of our wines are from France it is evident that most of this blending is done in that country, although other countries are not without sin.

"To stop these practices the United States will have to exercise great vigilance through experts stationed at the principal ports, such as Bordeaux, Rheims and Mayence. These experts, in connection with our Consuls, will have to visit each invoice and see it contains no falsely labeled items.

"The Government of the United States and the Legislatures of the several States should enact legislation that will prevent false labeling. The Sherman act partially safeguards this point, but it needs some amendment to make it efficacious."



## Agricultural Review.

### ALAMEDA.

**THE GRAPE HARVEST.**—Livermore Herald: Grape picking commenced Monday. The price for picking is as usual—\$1.50 per ton. The percentage of sugar is higher than last year and the winery men are having no trouble. The crop is about equal to that of last season. It would probably have been a little larger, but has fallen away in weight on account of the desiccating winds. Prices rule a little higher than they promised last week. Black grapes are bringing \$16 to \$16.50 per ton, and the ordinary varieties of white grapes from \$18.50 to \$20. A few of the choice varieties of white grapes, such as Semillon, Muscatel de Bordelais and Sauvignon Blanc will probably reach \$30, but the quantity is limited.

**WINE MAKING.**—Niles Herald: Grapes are ready for wine making at the Mission and next week will see the work started. Buyers are only offering \$15 to \$20 this year as against \$25 to \$30 last. The yield this year is a good average.

### BUTTE.

**PRUNE YIELD.**—Chico Enterprise: There were predictions last spring of a light prune crop, but the situation so far is quite satisfactory, though there will be a slightly decreased output from last year. While the trees are not laden so heavily this year as last, the fruit is larger, will grade higher and ought to bring better prices.

**SHEEP DIE FROM EATING BLACK LAUREL.**—A band of sheep coming from the northern country recently passed near Paradise. In swinging them off the road to find feed the drivers were so unfortunate as to strike a clump of black laurel. The sheep were hungry and fell to with such avidity on the green leaves that a great number were fatally poisoned before the danger was discovered. Within an hour nearly 200 were dead and others were dying in spite of the utmost efforts on the part of the entire force of drivers and packers. It is reported that altogether over 300 died.

### COLUSA.

**PRETTY TALL CORN.**—Sun: W. H. Jones brought from Oliver George's place some stalks of corn 18 feet long and something over 12 feet up to the ear. And they are big ears, but we hardly expect to astonish the Missourians on ears of corn. Where we will excel in growing corn is in making a forage plant out of it. We must cut our corn and make a silage out of it. We cannot afford to climb 12 feet after an ear of corn and throw the stalk away. The field from which this was gathered would make fifteen tons of silage to the acre, easily enough, and this is the very best of feed for cows.

### CONTRA COSTA.

**LAND RENTS RAISED.**—Martinez Paper: Rents on the Los Medanos ranch have been raised from \$100 to \$150 per annum for ten-acre pieces.

### FRESNO.

**HARVESTING THE RAISIN CROP.**—Democrat, Sept. 19: The rush of harvesting the raisin crop is over and on many vineyards the work of stacking, sorting and placing the crop in sweat boxes is under way. The grapes have dried slowly this season owing to the cool weather, but the crop, as a rule, is exceptionally well cured. The slowness in drying made the raisins plumper and much sweeter, a desirable feature, thereby increasing in no small amount the weight over raisins dried quickly. There was no shortage of laborers here this season, as the workers were well organized. The Japs, as usual, did most of the picking.

### KINGS.

**THE HONEY YIELD.**—Hanford Sentinel: F. E. Brown, the honey man, says there is no price for honey on now to amount to anything and business is tied up. He says that this season there will be about seven cars of honey all together. That will make the total output of the county 210,000 pounds.

**WINE GRAPE PRICES.**—Hanford Journal: The management of the local winery of George West & Son announce prices as follows: Black wine grapes, \$12 per ton for 24% sugar; Rosa Peru, \$10 per ton for 24% sugar; Emperor and Tokay, \$8 per ton for 24% sugar; Malaga, \$9 per ton for 24% sugar; Sultana, \$9 per ton for 22% sugar. Payable—One third cash, one-third February 15, one-third June 15, 1904. Second crop Muscat grapes, \$8 per ton for 24% sugar. Payable—One-half cash, balance June 15, 1904.

### LOS ANGELES.

**PRUNE HARVEST.**—Pomona Times: The local prune harvest is on. The crop

in and near Pomona is expected to amount to about 800 tons, 400 of which belong to the Pomona Deciduous Fruit Growers' Association.

### MERCED.

**THE BUHACH PLANTATION.**—Sun: J. M. Davis, superintendent of the Buhach Plantation, says they are packing about 1200 crates a day, requiring the services of about a dozen pickers and thirty packers. Twenty-three cars had been shipped up to date, and Mr. Davis expects the yield to amount to about forty cars. They are winding up the peach harvest at the plantation, having shipped twenty-five tons of dried peaches and several thousand boxes of the fresh state. The peach yield was above the average.

### MONTEREY.

**BIG MONEY IN POTATOES.**—Salinas Index: Frank Kopman this season rented thirty acres of his land in the Blanco district to a Chinaman for \$14 an acre. The Chinaman raised a crop of Salinas Burbank potatoes from which he realized \$5,000. A Jap rented fifty-five acres of land in the same neighborhood, paying therefor \$15 per acre. His crop of potatoes netted him a profit of \$50 per acre.

**A DESTRUCTIVE WORM.**—Watsonville Pajaronian: Horticultural Commissioner D. W. Rohrbach of Monterey county reports the presence of a destructive worm in the orchards of Prunedale district. The White Winter Pearmain and Skinner Seedling apples suffer far more from the attacks of the worm than either the Newtown or the Bellefleur. It is believed the reason for this is that the two former varieties of trees bear heavy foliage. The pest resembles in many respects the canker, but attacks the fruit instead of the foliage. It suspends itself at times a few feet below the limbs of the trees by means of a web. It will draw the edges of a leaf together and fasten them with its web, thus affording a place of shelter. The pest will also pull the foliage as close to the apple as possible. Its favorite point of attack is the outer surface or skin of the fruit, which is punctured to such an extent that the apples are rendered unmarketable. In a few cases at least 60% of the fruit in orchards of the district named will be ruined. Its sudden appearance precludes the possibility of checking its ravages in time to save the fruit in such orchards this season.

### NAPA.

**GRAPES ARE LOW.**—St. Helena Sentinel: The Greystone celler, the large California Wine Association winery, announces the price of grapes \$15 and \$17.50 a ton. A number of outside wine makers will buy grapes and the price will probably reach \$18 and \$20. The Association payments are one-third cash, one-third February 15, and the balance June 15, apparently without making any distinction between mountain and valley grapes, while outsiders are offering earlier payments and make a difference of about \$2 a ton in favor of mountain grapes.

### ORANGE.

**NEW CATTLE FOOD.**—Anaheim Gazette: Successful experiments have been made by ranchers at Bolsa with varieties of pennisetum as a fodder plant for cattle. One rancher has succeeded in raising crops of the grass that will make a total yield of ninety tons to the acre per year, with cuttings each month. The quality of the food compares very favorably with millet, and is especially valuable for cutting up and siloing. Specimens 10 feet tall are now on exhibition at the Chamber of Commerce at Santa Ana, although the crop is usually cut for feeding to stock when it attains a height of about 4 or 5 feet. After each cutting it sprouts up from the old roots without replanting. Grasses of similar variety are a common stock food in India and other Eastern countries.

### SAN DIEGO.

**CORN HARVEST.**—Imperial Press: The first of the new crop of Egyptian and Kafir corn is now ready for harvest, and the harvest season will be on for nearly four months, or until about Jan. 1. This opens the way for the early importation of large numbers of hogs and cattle for feeding.

**INCREASED ALFALFA ACREAGE.**—There is a great demand for alfalfa seed this fall, indicating that there is to be a large acreage greatly in excess of all previous sowings.

### SAN JOAQUIN.

**HEAVY YIELD OF FINE RYE.**—Stockton Independent: There is more rye raised in San Joaquin county than any county in the State and the quality is very fine. On the uplands near French Camp and Ripon the best rye is produced, and this season the yield was exceptionally good. The acreage sown to this cereal has been increasing each year, and this season it was the largest in the history of

the county. From twelve to eighteen sacks an acre were secured.

### SANTA BARBARA.

**BIG HONEY CROP.**—Press: The Kelly Bros. of Santa Ynez valley brought over a big four-horse load of extracted honey yesterday. It is of the finest quality, the season having been a most favorable one. The apiaries on the Kelly ranch are in excellent condition, quite free from foul brood, which the county bee inspector is making an effort to exterminate. The honey crop is above the average this year and is bringing a good price.

### SANTA CLARA.

**ABOUT PRUNES.**—San Jose Mercury, Sept. 19: The last of the prune crop is being put on to trays and a few more days will see the fields bare. Driers are giving orders to the growers to shake the trees and finish up. The packers are in the market for lots of prunes which run to large sizes, and are offering 2½ cents bag basis. Small sizes are not in demand at present. The situation is strong, and notwithstanding the domestic jobbers are lined up waiting for "something to drop," the growers seem to have a pretty good grip on their fruit and packers are maintaining prices. There is no reason in the world why there should be anything sold at less than 3 cent bag basis, and every reason why they should demand higher prices. It is unfortunate that the jobber does not understand the situation more fully, because the waiting policy will pile up some 1903 prunes on to 1904 crop without a question.

### TEHAMA.

**SOME FALL WOOL SOLD.**—Red Bluff News, Sept. 17: Several small clips of fall wool have already been sold and shipped. The prices received were 9½ to 10 cents per pound. Last year fall wools brought from 10½ to 12 cents. The great bulk of the wool is yet to come in and the market will probably not open for a week.

### SHASTA.

**SHORTAGE IN HAY.**—Millville Tidings: S. Waldorf last year baled 2300 tons of hay in the same territory where this season he baled less than 1000 tons, the difference being due to the light crops.

### SOLANO.

**BET YIELD.**—Suisun Courier: The harvesting of the beet crop in this vicinity and at Cordelia is in progress. Owing to a lack of late spring rains this season the crop is light, but the beets are of good quality.

### SONOMA.

**SUPERB PRUNES.**—Sebastopol Standard: B. F. Williams of Green Valley has been hauling his prunes to town and selling them to E. H. Mills. The prunes are very large, and one load of a half ton which he brought in was so extra large and the question having been sprung that no seven prunes in the State would weigh a pound, Mr. Mills picked seven prunes from the load that weighed an even pound, and could easily have picked out a large number that would go seven to the pound.

**GRAPES AT \$16 PER TON.**—Windsor Herald: It is reported that all the grapes on the Higby, Sheridan and Grant Peterson, Benson, Lavall and other ranches in that section have been sold to the Fountain Grove winery at \$16 per ton cash.

**LARGE GRAPE YIELD.**—Healdsburg Enterprise: Superintendent Geo. Blackburn of the Hopkins ranch says that the grape yield this year will be considerably more than last year. The yield last year was 700 tons and Mr. Blackburn is confident the output this year will exceed 800 tons. Off a patch of vines where last year only three tons were gathered he says this year twenty-three tons were harvested. There are 300 acres in the tract, but considerable of the acreage is infected with phylloxera.

### SUTTER.

**WINE GRAPES.**—Yuba City Farmer: In this locality the following prices are offered by the Sacramento Winery, and the growers must deduct \$2.30 per ton for freight, besides furnishing boxes, etc.: Mission and Zinfandel, \$14.50 per ton; other black grapes, \$13 per ton; Muscat, \$10; Tokay, \$9.

**LOTS OF TURKEYS.**—The turkey crop is coming on well and there will be plenty ripe for Thanksgiving dinners. In southeastern Sutter there are thousands of these toothsome birds raised, and from all accounts the flocks are thriving and promise good profits to their owners.

### TULARE.

**SHEEP MEN COMPLAIN.**—Porterville Messenger: C. T. Brown states that his band of 220 ewes, that he has had on his private holdings in the mountains during the summer, is on its way down to the valley. The weather is getting so cold in the hills that the sheep are becoming restless and hard to hold, and he was compelled to bring them out. Mr. Brown

is thoroughly disgusted with the sheep business and says that the sheep men are up against the real thing on account of the action of the Government in keeping the sheep off of the mountains.

**HONEY CROP.**—Times: R. Hyde, the bee man, states that about ten carloads of honey have been produced in this county the past season, four cars of which have been shipped. The producing season is ended.

**LIGHT CROP OF FRUIT.**—Visalia Delta: If the yield of prunes from the W. G. Pennebaker orchard, 1 mile southwest of this city, is a criterion, the crops throughout the county this year will be very much lighter than many people anticipate. He has twelve acres of as fertile land as can be found in the county, that are planted to prunes, and from that number last year 186 tons were realized in green fruit. This year Mr. Pennebaker says but 12 or 15 tons will be picked. This is due to unknown causes, though some of the trees died. The late frost injured the fruit some. The fruit harvested is of good quality.

**MAKING \$6 TO \$8 DAILY IN CANNERY.**—A young lady of Visalia, who is a member of the high school, and who is working in the cannery during the fruit season, is making very good wages. She is employed in the canning of the extra fruit and gets 5 cents a tray, which consists of eleven cans. It is nothing unusual for her to put up 1280 cans or 140 trays per day. During the past week she averaged something over \$6 per day. Two days she made a few cents more than \$7. There are one or two girls from Sacramento who have had several years of experience in canning fruit, who are making \$8 per day.

### YOLO.

**PRICES FOR WINE GRAPES.**—A Woodland dispatch says local prices of wine grapes have been established by the Winemakers' Association, as follows: Zinfandels, \$13.50; Sultanas, \$12; Muscats, \$9; Tokays, \$8. The growers expected much better prices, but found the buyers were strongly organized. The grape growers delivered 180 tons of grapes to the Yolo Winery one day last week, notwithstanding Foreman Eicher's warning that unless they were delivered in such quantities that they could be handled by the plant to good advantage it would be necessary to temporarily stop receiving. Mr. Samuel states that the Yolo Winery is acting independently of and has no connection with the association. As an evidence of this he cites the fact that the association is buying grapes on three, six and nine months' time, while he is paying cash.

**PRUNE PICKING.**—Woodland Democrat: The work of picking prunes has been commenced in Roy Coll's orchard. He has seventy-five acres of trees, seventy acres of which are in full bearing. The crop is a very heavy one, and in quality is excellent. Four weeks will be required to pick and cure it. Mr. Coll employs fifteen families, or about sixty people, in picking. They are camping and occupying tents, and the orchard presents the appearance of a town.

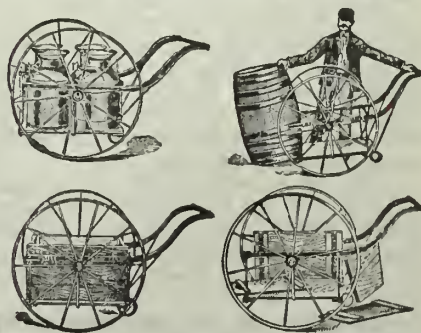
## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges extra, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15.

Handles barrels or four large milk cans.

Steel frame and steel wheels.

HOOKER & CO.

16 & 18 DRUM ST., SAN FRANCISCO, CAL.



## THE HOME CIRCLE.

## A Statue.

Yea, I have lived. Pass on,  
And trouble me with questions never-  
more.  
I suffered. I have won  
A solemn peace—my peace forevermore.  
Leave me in silence here.  
I have no hope, no care,  
I know no fear,  
For I have borne, but now no longer  
bear.

Deep-hid Sorrow calls me kin,  
But my calm she cannot break.  
I know not good, I know not sin,  
Nor love nor hate can me awake.

Though I have sought, I care not now to  
find.

If I have asked, I wait for no reply.  
My eyes, from too much seeing, are grown  
blind.

I am not dead, yet do not need to die.  
Pass on. Ye cannot reach me any more.  
Pass on, for all is past!

Hush! Silence settles ever more and  
more—  
Silence and night at last.

—Hildegard Hawthorne.

## How He Worked.

The women at home, with their petty  
cares,  
They little know what a man does and  
dares;

He has to fight and he has to rush,  
He has to hustle, he has to gush;  
From morning to night he's on the go,  
And rare are the pleasures he comes to  
know.

Thus said Sam Small as he went down  
town,  
With a ghastly smile and a frenzied  
frown,

But later his wife, on that self-same day,  
Caught this hard-worked hub at the mat-  
inee.

## Just Be Glad.

Oh, heart of mine, we shouldn't  
Worry so!  
What we've missed of calm we couldn't  
Have, you know.  
What we've met of stormy pain  
We can better meet again  
If it blow.

For we know not every morrow  
Can be sad:  
So, forgetting all the sorrow  
We have had,  
Let us fold away our fears,  
And put by our foolish tears,  
And through all the coming years  
Just be glad.

—James Whitcomb Riley.

## Billy and the Eagle.

His head appeared very much too  
large for anything about him except  
his mouth and voice. The former  
feature was the first to engage one's  
attention and the latter was as hoarse  
as the croup.

His complexion was a dark Payne's  
gray and the blue-black skin hung in  
wrinkles around his withered neck, but  
was tightly stretched over his rounded  
abdomen. He was as naked as the  
brass Diana on the top of the Madison  
Square Garden and as blind as love.

His legs were too long and too weak  
to support his aldermanic body; but we  
must not blame little Billy for these  
peculiarities; he was born with them;  
he was only an orphan baby crow.

The crib in which he reposed was a  
work basket, his mattress was dry  
grass and his cover lid a rag of red  
flannel; however, the basket was more  
comfortable than the nest in which he  
was born and the flannel was as warm  
as an embroidered quilt.

Billy was no bottle baby, but he was  
very fond of raw eggs which his foster  
father, Dick, knew how to crack so  
that the contents could slip slowly into  
the great gaping mouth of the little  
crow.

After Dick had fed him, Billy would  
nestle down in his soft bed and sleep  
until next egg time. Sometimes Dick's  
baby sister Deborah would creep to  
the crow's basket.

Her first experiment was to try and  
put the bird in her own mouth. This  
proved a failure, but she was more suc-  
cessful in her next experiment, and

she amused herself by picking up but-  
tons and other small objects which  
came handy, and dropping them into  
the red mouth of Billy.

Why these things did not cause the  
death of the crow is a mystery pos-  
sibly explained by the habit that the  
young bird had of flirting distasteful  
objects from his mouth with a quick  
twist of his head.

The real result of these attentions  
was the gradual growth of a feeling of  
affection between Debby and Billy,  
hardly surpassed by the bond of de-  
votion which bound Dick and the crow  
together, making them almost insepar-  
able companions.

Long before it was the proper time  
for a young bird to leave its nest Billy  
would come sprawling and staggering  
from his basket to meet the baby girl,  
and, seizing the hem of her pinafore,  
would hang on and squawk while  
Debby, screaming with delight, would  
scramble over the veranda floor on all  
fours as rapidly as her hands and knees  
could carry her.

Debby still was a baby and had but  
just learned to walk when Billy was a  
handsome, full-grown, glossy black  
crow. By this time Billy appointed  
himself private detective in plain  
clothes and personal bodyguard to the  
little girl, and woe to the stray cat,  
dog or barnyard fowl that approached  
too near little Debby.

The innocent little garter snakes  
that timidly wriggled through the  
grass by the feet of Debby never failed  
to lose their heads and rest their bones  
inside of Billy Crow.

Dick would never harm the pretty  
little insect-eating snakes, or any other  
wild creature. He loved the trees, the  
sky and the air; the birds were his  
personal friends.

Dick knew where all the people of  
bird-town lived from the kingbird in  
the tall buttonwood tree to the spar-  
row in the clover. Billy Crow also  
knew the inhabitants of bird-town; but  
it would not have troubled the con-  
science of the crow to eat the robins'  
eggs and the young catbirds at a meal  
and wantonly destroy their little nests.

If he refrained from so doing it was  
possibly because he always had enough  
to eat at home, or perhaps Billy  
thought that the inhabitants of Birdville  
belonged to his young master. Billy  
Crow might steal from any one else,  
but he never was guilty of robbing  
Dick, and even such tempting objects  
as Dick's bright glass marbles were  
deemed sacred by the crow.

The other birds always looked with  
suspicion at Dick's black companion;  
and although they learned to trust the  
boy, they never failed to scold and often  
to attack the crow.

The beautiful scarlet tanager would  
cry "Chip jarr, chip jarr!" whenever  
he saw Billy, and the gorgeously  
colored oriole, as he flashed in the sun-  
light, singing as he flew, would sud-  
denly become silent at the sight of the  
crow; but when the kingbird erected  
his war plume Billy would have busi-  
ness to attend to which necessitated  
his presence directly around his mas-  
ter's feet.

A fierce war eagle, with great  
hooked bill and tremendous spread of  
wings known to Dick as Uncle Sam,  
lived in the mysterious country on the  
far side of the little lake in front of  
Birdville.

One day Dick and Billy saw the  
great bird at Rock Cabin Cove on the  
opposite side of the lake waiting for an  
opportunity to rob the industrious fish-  
erman osprey. Billy ruffled up all his  
features, drooped his head and began  
to walk around his master's feet talking  
and laughing in low, guttural tones as  
if something greatly amused him.

A moment later the fishhawk fell  
with a splash into the water, disap-  
pearing from view, only to reappear  
again with a big stupid carp in its  
hooked talons. Uncle Sam launched  
himself, and, sailing over the back of the  
frightened hawk, demanded the fruits  
of the latter's labor.

The loud whistling protest of the  
hawk could be heard plainly appealing  
for help, and in a moment more Billy  
was flapping his black wings over  
the robber eagle's back. By his loud  
hoarse "caws" one could tell that he

was having fun with Uncle Sam and  
teaching him how it feels to be the un-  
der one.

Soon the eagle was glad to leave the  
osprey and seek the shelter of the  
dense woods on the other side of the  
lake by the abandoned quarry. Perched  
upon the boy's shoulder Billy then told  
all about the affair.

"Caw," says Bill, "caw. Sam is  
nothing much. I saw Long Legs, the  
blue heron, at the leaning maple, whip  
him—Sam can't fight a little bit 'nless  
he has everything his way—caw, caw!"

Nobody but crows and Dick under-  
stands crow talk, but Dick understands  
all the wood folks' languages.

All unknown to her parents and Dick,  
little Debby had toddled after her  
brother to Birdville. Wearied with  
the long walk the baby girl now slept  
peacefully among the blue flowers of  
the lupine, near the sparrow's nest.

The impertinent and noisy bluejay  
came chattering over to see why Debby  
was there, and incidentally to rob a  
nest or two by the way, but the king-  
bird raised the hue and cry and drove  
the gaudy bandit away and as the jay  
disappeared down the tote road his  
mocking, high-keyed voice was heard  
to cry:

"Got 'im, got 'im, I've got 'im!"

"Who? Who?" asked the barred  
owl, aroused from his day nap by the  
tumult.

"Phoebe," mournfully replied a faint  
voice; and Dick said to Billy:

"I hope not."

But the crow was not there to hear  
him. Just then the boy heard his  
friend using most unprintable language,  
betokening both rage and great ex-  
citement.

Seizing a club and hastening to his  
friend's assistance, Dick was horrified  
when he saw Uncle Sam vainly trying to  
lift a white object from the ground, while  
Billy was making a frantic attack upon  
the eagle, aided by the kingbird and  
humming bird.

With one bound the boy landed on  
the battle ground and with a mighty  
swing of his cudgel he laid the bald-  
headed robber prone among the flow-  
ers. The next moment he had gath-  
ered his little baby sister in his sturdy  
young arms. Her white pinafore was  
torn to shreds, but she was unharmed.

"Poo Billy, him fight naughty big  
bird, poo Billy," lisped the little girl.

Poor Billy, indeed! There he lay,  
his beautiful black wings outstretched,  
moving with the tremor preceding  
death. Billy the crow had been killed  
by the same blow which slew the eagle.

In vain did Dick use every means in  
his power to resuscitate his friend and  
comrade. The bird was past help.

A little mound among the lupines  
marks the spot where the quaint and  
lovable soul was freed from the black  
body which is buried there. A shingle  
serves for a headstone, and inscribed  
thereon is the legend:

Here Lies Billy the Heroe.  
He Was My Best Friend and  
He Licked a Eagle.

—New York Sun.

## The Bridegroom Explained.

During the night the ship on which  
the bridal couple were taking their  
honeymoon trip entered a thick bank  
of fog near shore. When the bridal  
couple came on deck the vessel was  
proceeding at a snail's pace, and from  
the gloom ahead reverberated the  
hoarse warning of the fog horn.

"Why don't they make the boat go  
faster, dearie?" asked the bride, look-  
ing into her husband's face with eyes  
which showed that she realized the fact  
that all human knowledge was centered  
in his head.

"Why, my angel, don't you hear that  
automobile tooting just ahead of us?  
You don't suppose the captain wants  
to be run over, do you?"

Clerk: "Here's an order from Smiths  
for two quarts of berries, but it doesn't  
say what kind. Grocer: "Send them  
bilberries. They owe us over \$100."

## Pa and the Calf.

"It seems to me, Maria," said a kind-  
hearted city man who lived in the  
suburbs, "that it is wicked to keep  
that calf shut up in a close pen this  
warm weather."

"That's right, John. I have told you  
several times that the calf should be  
exercised and have an opportunity to  
enjoy the sunshine and the fresh air. It  
is positively sinful to keep animals con-  
fined as this calf has been.

"It's a pretty hot day to exercise  
the calf."

"Don't put off this job on account of  
the hot weather. You always have  
some excuse," replied Maria.

At this prod of his wife John sallied  
off to give the calf an airing. John  
used to be spry and nimble, but after  
seventy years battling with life's cares  
and rheumatism, he had lost much of  
his youthful alertness. He attached a  
long rope to the neck of the calf and  
led him confidently out into the wide ex-  
panse of lawn that bordered the house.  
The calf at first seemed to be dazed by  
the bright sunshine, but after a mo-  
ment's hesitation galloped off with  
frantic speed, taking him unawares, al-  
most throwing him instantly. John's  
legs were not extremely long, but the  
speed of the calf forced him into taking  
remarkably long strides, as he held  
onto the end of the rope. When the  
calf arrived at the end of the enclosure  
he turned around and looked at John  
as though he desired further acquaint-  
ance. John approached the calf haul-  
ing the rope hand over hand. When he  
reached the center of the rope the calf  
started off again in the opposite direc-  
tion, and John again began to measure  
nearly 10 feet at every stride with his  
short legs. John was amazed at the  
wondrous strength of this calf. He  
knew that oxen, with the force of their  
necks, could draw heavy loads, but he  
was surprised to find that this calf,  
using the rope about its neck for a  
yoke, could haul him about so merci-  
lessly. At this moment the rope came  
in contact with a tree and John came to  
an abrupt standstill on one side of it  
and the calf at the other. Then the  
calf started in the opposite direction  
around the tree, and John was in great  
danger of being wound up and tangled  
in the rope. After succeeding in dis-  
entangling the rope he again attempted  
to approach the calf, having decided  
that he had exercise enough for one  
day. But the calf thought differently  
and started off on a gallop down the  
lane toward the highway, John being  
compelled to follow in the race at the  
end of the rope as before. It happened  
that John had an aristocratic neighbor,  
and John was exceedingly anxious to be  
held in good esteem by this neighbor.  
On this hot day in July the neighbor  
had a gathering of friends upon the  
lawn. These neighbors were astonished  
to see a cloud of dust down the road  
from which in a few moments emerged  
a calf followed by a man whose white  
hair was flowing wildly in the wind.  
The calf made directly for the gather-  
ing upon the lawn. The women ran  
screaming in every direction, chairs  
were upset, and there was a wild  
scrambling for the piazza. As the calf  
disappeared around the corner of the  
house John made his appearance, hold-  
ing firmly to the end of the rope, still  
taking long strides, his face bearing  
expression of much anxiety. He was  
utterly heedless of the aristocratic  
neighbor, who called upon him for an  
explanation. Around the lawn, among  
the bushes and flower beds, the wild  
calf dragged the unlucky John, followed  
by the men of the party and his aristo-  
cratic neighbor, who were bent upon  
preserving as much of the property as  
possible from destruction.

Finally the calf was cornered and  
John was able to gather up half of the  
rope. Then the calf made a dash side-  
ways, bringing the rope in contact with  
a beehive, which immediately upset.  
The bees without delay attacked both  
the calf and John. The last seen of the  
calf he was crawling under the low-  
hanging currant and gooseberry bushes  
in order to scrape off the bees. On



returning home John addressed his wife as follows:

"It's a fine day, Maria."

"What in the world is the matter with you?" asked his wife.

"Oh, nothing. I've simply been enjoying myself; taking a little exercise in the fresh air and sunshine."

"And what has become of the calf?"

"I don't know and I don't care. When I show sympathy again for a calf you will know it."

"But what is the matter with your face? It is all swollen up and you look as though you were ready to melt with the heat."

"I wish," replied John, "you would stop asking me fool questions. I am going to bed. Give me a cloth wet with arnica and spread it over my face."

"I heard that a plaster of mud was a good remedy for bee stings, if that is what's the matter with you," remarked his wife. But by this time John had slammed the door and was out of hearing.—Green Fruit Grower.

#### Trials of a Teacher.

The school teacher is very poorly paid for his wearisome work of imparting wisdom to his pupils, if many are like the one described in the following dialogue, says Texas Siftings. The boy found it difficult to understand simple arithmetic.

"Suppose, Fritz, you have a stocking on one foot, and you put another stocking on the other foot, how many would you have on both feet?"

"I never wear no stockings."

"Suppose your father has one pig in a pen, and he buys another pig and puts it in the pen, how many pigs will be in the pen?"

"Dad don't keep no pigs."

The teacher sighed a heavy sigh, wiped the perspiration from his scholastic brow and went at it again with renewed courage.

"Suppose you have one coat, and at Christmas your father makes you a present of another coat; how many coats will you have then?"

"He ain't that kind of a father. He never gives us nothin' on Christmas."

Suppose your mother gives you one apple, and you already have one; what will you have then?"

"Stomach ache. Our apples are cookin' apples."

The teacher was not the man to be discouraged by trifles. He began to suspect that the boy was not well up in arithmetic, but he resolved to make one more effort, so he said:

"If a poor little beggar boy has a cake, and you give him one more, how many will he have?"

"I dunno. I eat my own cakes."

Then the teacher told the children to go out and play.

#### He Knew She Would Come Back.

A young man who looked as if he might be twenty-five years old was sitting in the waiting room of the railway station. On his knee was a year-old baby. Presently the baby began to cry, and the awkwardness and helplessness of the young man was so marked as to attract general attention.

At this point a waiting passenger, a fat and amiable looking man, crossed the room and said to the distressed baby tender:

"A young woman gave you that baby hold while she went to see about her baggage, didn't she?"

"Yes."

"You expect her back, I suppose?"

"Of course."

"Ha, ha! Excuse me, but I can't help laughing. A woman once played the same trick on me. You're caught, young man. She took you for a green-horn."

"Oh, she'll come back," answered the young man, as he looked anxiously around.

"She will, eh? Ha, ha, ha! What makes you think so?"

"Why, because she's my wife, and this is our baby."

"Um—um—I see!" muttered the fat man, and he was in such a haste to get back to the other side of the room that he nearly fell over a passing pugdog.

#### Dainty Dishes of Vegetables.

"It was necessity which developed my taste for vegetable dishes," says a woman who is noted for the excellent table she sets and the quality of her cooking, "and it was true only after some study that I was able to serve three appetizing meals a day and not have meat on the table at each. We cannot call ourselves vegetarians, but when I found that the family health was not what it should be, and the doctor laid the trouble to an overindulgence in fresh food, why I put my wits to work, and I do not believe there is a family in the city which has a more varied table than ours, and no one would have reason to complain if the three strong men for whom I have to cater say that they are entirely satisfied to have meat only once a day."

"The trouble with most women and the bill of fare they serve to their families is that that they wish to make up the menu and do the cooking 'out of their own heads.' It is a common weakness, but providing for a family table for at least ten months in a year is no small task, and it requires the study of receipt books and much thought to make it satisfactory and wholesome. It is marvelous how little variety there will be in a family where the mistress is an intelligent and capable woman. It all comes from carelessness, as I know from my own experience."

"There are many vegetables moderate in price that we do not even think of using. One of these the German kohlrabi, which is not so different from cauliflower or turnips, but is more delicate than the latter, and makes an agreeable change in vegetables. To cook it:

"Peel, cut in slices and pour on just enough water to cook. Cook until tender, and when nearly done add salt. Make a cream sauce, season with white pepper, salt and a little grated nutmeg. If liked, toss them in this sauce, let it boil up once, and serve very hot. They are delicate and delicious."

"All the members of the cabbage family are good if properly cooked. They must be boiled just long enough; a little over or under cooking will spoil them. A cabbage should have the outer leaves removed, be left in cold salted water for a time, and examined to see that it is free from insects. It must be put in a large quantity of boiling salted water, with no other ingredient, no soda, and the lid must be kept off and the scum removed from the surface of the water. Brussels sprouts take fifteen minutes to cook, and cabbage and cauliflowers fifteen to twenty-five minutes, according to size. They must be served hot."

"The members of the cabbage family can be served in a second-day dish or immediately baked with cheese if desired. The cabbage is first boiled and may or may not be fried brown after. It is placed in a shallow dish, and butter, the proportion of three ounces to the pound, added with a large cupful of stock of brown sauce and a salt-spoonful each of salt and pepper. It is stirred well and cheese grated liberally over the top and baked for twelve minutes. These are hearty dishes, but men usually like them."

"Mushrooms should be used more than they are. There is a false idea that they are a dish for the rich, and they are but comparatively little known, even with all that has been said about them within the last few years. Most people only know them as they are found served at a restaurant, little tough, tasteless canned button mushrooms. They can be used in many ways and help to give variety to the diet."

"An onion with cheese is excellent. Large Spanish onions are skinned and boiled until they are quite soft, passed through a sieve put into a shallow dish with butter, a good quantity of pepper and salt, with a little stock or milk, cheese is grated over them, and they are placed in the oven to bake a good brown."

"There is much waste saved in cooking pods, which give a good stock for the foundation to a soup, and pea croquettes are excellent. In these a little

cold ham is used. The peas are beaten to a pulp, mixed with butter, pepper and salt; the minced ham, different savory herbs to taste, made into croquettes, dipped into egg and bread-crumbs and fried in deep fat."

"After more substantial things here is a pretty delicate tomato ice salad which is delicious. Take a can of tomatoes—or the fresh ones can be used—put them over the fire with half an onion, a slice of green pepper, if convenient, three cloves, two bay leaves, a sprig of parsley, a teaspoonful of sugar and pepper and salt to taste. Cook about ten minutes until the onion is tender, take from the fire and press through a fine sieve to remove the seeds. When it is cold it must be frozen like a water ice in a mould, a melon being a pretty one packed in ice and salt. It is served on a nest of young lettuce leaves and mayonnaise dressing, must be ready for individual service."

"Many people think they cannot eat green corn, but if it is grated they will feel no unpleasant effects. Mock oysters of corn are delicious. A pint of grated corn—or canned corn ground in a mortar, and pressed through a sieve, can be used—is mixed with a cup of flour, one egg, two ounces of butter, three tablespoonfuls of milk and salt and pepper to taste. The oysters are dropped from a spoon into the hot fat or frying pan as much in the shape of oysters as possible, and served hot with a garnishing of parsley. Corn pudding and green corn griddle cakes are delicious made of the grated corn. A curry of corn will also make a delicious luncheon dish.—N. Y. Times.

#### Domestic Hints.

ICED PEACHES AND CREAM.—Peel and slice as many peaches as will be desired, sprinkle well with sugar, mix through them some whipped cream having in it a few drops of brandy and put into a mould. Pack this mould in ice and salt for an hour or so before serving.

OMELETTE WITH PEPPERS.—Beat separately the whites and yolks of five eggs. Put them together, season with salt, flavor with a teaspoonful of onion juice, and add half a cupful of green peppers which have been chopped and fried in a little butter. Cook in a hot buttered omelette pan.

PEACH SAORTCAKE.—To two cups of flour add four tablespoonfuls of baking power, one-half spoonful of salt, one-quarter cup of butter and one tablespoonful of sugar. Mix with milk and spread on two round buttered pans. When done, remove and butter under the crust well, spread with peaches, pared and cut into sections, sprinkle well with sugar and put over the upper crust buttered. Cover the top with peaches and arrange pieces around the outside edge. Cover with whipped cream.

STUFFED TOMATOES.—Stuffed and roasted tomatoes are delicious at this season of the year with either mutton or beef. Wash and dry well six fine red tomatoes, those of the beef-steak variety being the best for this purpose. Cut off the tops without detaching, so that they will serve as a cover; scoop out the pulp with a scoop, season the inside with pepper and salt, and place the tomatoes on a plate until the stuffing is ready. Peel and chop very fine one medium-sized onion, place it in a saucepan with half a tablespoonful of butter and cook for three minutes on a brisk fire, being careful not to let it get brown. Add six chopped mushrooms and one ounce of sausage meat, season with salt and pepper and cook for three minutes, stirring once in awhile. Add now the pulp of the tomatoes, with half a cupful of fresh bread-crumbs and a teaspoonful of fresh chopped parsley. Mix well and cook for two minutes longer or until the mixture comes to a boil; then place in a bowl to cool. Stuff the tomato shells with the preparation and close the covers. Lay them on a tin plate, cover them with buttered paper and cook in a moderate oven for eighteen minutes. Stuffed tomatoes are served as a garnishing in various ways.

## GLENN RANCH, Glenn County, :::: California FOR SALE In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## FARM FOR SALE.

320 Acres, near Newcastle, Placer Co., California.

Comprising 150 acres suitable for fruit raising;

100 acres rich bottom land suitable for hay and alfalfa;

Never failing stream of water for stock and irrigating;

Vineyard of Tokay and Muscat Grapes; Sixty acres forest, will yield \$6000 of timber and cordwood.

Price \$8000; half cash, balance on easy terms.

Address "NEWCASTLE," care of Pacific Rural Press.

#### GARDEN LAND TO LEASE.

30 ACRES OR MORE OF GOOD BOTTOM sandy soil, suitable for general market gardening; 2 miles from R. R.; 2 miles from one of the best young towns in the State. Three outside vegetable wagons sell from \$30 to \$40 per week per wagon. Close to two summer resorts and other small towns where vegetables sell high. House, barn, etc. For particulars, address

WALTER ARMSTRONG, Sebastopol, Cal.

#### Alfalfa Land \$2 per acre. cash.

50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$30 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

#### OPPORTUNITY FOR PRACTICAL FRUIT MAN.

100 acres fruit—peaches, apricots, plums and oranges. Grazing land and good building. Butte county. Owner in Europe. Will employ right man to run it, or lease on shares, or cash rental. Address "Representative," this office.

## W. & P. PAINT.

Good for any purpose where black paint is required; for inside or outside of tanks; for wineries and creameries; for floors, sinks, and wash trays; for insulating; for timber or roof preserving; for damp course for walls; for boilers, fronts, stacks, or other iron work; for anything or any place needing preservation from corrosion, dampness, rust or decay. Unaffected by acids or alkalis. Odorless, and safely applied. Dries quickly and is tough and durable. Lowest in price; best, irrespective of price. If interested let us send you sample. PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, September 23, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	83 1/2 @ 82 1/4	84 1/2 @ 83 1/4
Thursday.....	81 1/2 @ 82 1/4	83 1/4 @ 83 1/4
Friday.....	81 1/2 @ 80 1/4	83 1/4 @ 83 1/4
Saturday.....	80 1/2 @ 79 1/4	82 1/4 @ 81
Monday.....	79 1/2 @ 78 1/4	81 @ 80 1/4
Tuesday.....	78 1/2 @ 78 1/4	80 1/2 @ 80 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	52 @ 52 1/2	52 1/2 @ 52 1/2
Thursday.....	51 1/2 @ 52	51 1/2 @ 52
Friday.....	51 1/2 @ 50 1/2	51 1/2 @ 50 1/2
Saturday.....	50 1/2 @ 49 1/2	50 1/2 @ 49
Monday.....	48 1/2 @ 48 1/2	48 1/2 @ 47
Tuesday.....	46 1/2 @ 47 1/2	46 1/2 @ 47 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 45 @ 1 45 1/2	\$1 45 @ 1 45 1/2
Friday.....	1 45 1/2 @ 1 44 1/2	1 45 @ 1 45 1/2
Saturday.....	1 41 1/2 @ 1 42 1/2	1 42 1/2 @ 1 42 1/2
Monday.....	1 41 @ 1 42 1/2	1 42 @ 1 42 1/2
Tuesday.....	1 42 @ 1 42 1/2	1 42 @ 1 42 1/2
Wednesday.....	1 42 @ 1 41 1/2	1 42 @ 1 41 1/2

### WHEAT.

The bears have been in the lead in the local market for wheat during the greater part of the week under review. Business was largely in the speculative option for Dec. delivery, which showed a decline of nearly 7c from best figures of preceding week, or about \$140 per 100-ton contract, which is a big loss or profit, depending on the side the operator is using his money, whether a bull or bear. As only \$200 per 100-ton contract is required as a marginal deposit, the operator who shorted Dec. wheat at last week's top figures and filled at this week's lowest price realized a profit of about 70 per cent. Inside of six days or at the rate of fully 3,500 per cent. per annum. Not much money would be necessary to get us all on Easy street if it could be manipulated in above fashion. Those who work the game on a purely speculative basis, however, find in the majority of instances that the losses prove heavier than the profits. It is a sure thing business for brokers and for heavy capitalists who take no risks, but sell contracts only against actual holdings, insuring themselves warehouse charges and a moderate rate of interest on their money, but to dabble in grain options in a speculative way is about as bad as bucking a trio of poker sharps or a three card Monte man. The declines here in speculative wheat were in sympathy with Chicago, where the breaks were attributed to favorable crop weather in the Eastern wheat and corn belt. If the estimated requirements of Europe are anywhere near correct, wheat is not likely to touch low figures or remain weak any great length of time this season. Locally there has been very little doing in actual wheat, prices here being above the parity of European values and also on a higher plane than in Chicago or New York. Very little doing in grain charters, the market for ships being weak and dull and not quotable at over 12s. 6d. per ton to Europe for wheat cargoes.

California Milling.....	1 52 1/2 @ 1 57 1/2
Cal. No. 1 shipping, alongside.....	1 40 @ 1 42 1/2
Oregon Club.....	1 40 @ 1 45
Washington Blue Stem.....	1 40 @ 1 45
Washington Club.....	1 40 @ 1 45
Of qualities wheat.....	1 40 @ 1 45

### PRICES OF FUTURES.

December, 1903, delivery.....	\$1 45½@1.41½.
May, 1904, delivery.....	\$1.45½@1 42½.
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at.....	\$1.42 @1.41½; May, 1904, \$——@——.
Ocean freights and prices for wheat, as compared with a year ago, are as follows:	
1902-03.....	1903-04.....
Liv. quotations.....	65¼@65½d
Freight rates.....	23½@23½s
Local market.....	\$1 18½@1 18¼
	12¼@1 42¼

### FLOUR.

Current values are being quite well maintained, there being no heavy stocks, and the market is not apt to be soon burdened with offerings. Present supplies are mainly family and bakers' extras. Superfines are in such light stock as to be hardly quotable, and it would be impossible to fill orders of any consequence at extreme figures warranted as quotations.

Superfine, lower grades.....	\$3 00 @ 3 25
Superfine, good to choice.....	3 25 @ 3 50
Country grades, extras.....	4 00 @ 4 25
Choice and extra choice.....	4 25 @ 4 50
Fancy brands, jobbing.....	4 50 @ 4 75
Oregon, Bakers' extra.....	3 50 @ 4 00
Washington, Bakers' extra.....	3 50 @ 4 15

### BARLEY.

The market has been inclining against sellers, not so much in consequence of any great quantities offering or of urgent pressure to realize, as of lessened inquiry from shippers. There have been tolerably heavy receipts, most of the barley going to Port Costa direct for shipment to Europe, and representing purchases made in the interior by exporters. Shippers may be fairly stocked for the time being, but it is not at all probable that they have all the barley they will need for the fleet of ships now under engagement. It looks as though they had concluded to take a breathing spell and see if such a course would stop the market getting away from them. Six barley cargoes were cleared the past week for European ports.

Feed, No. 1 to choice.....	\$1 12 1/2 @ 1 15
Feed, fair to good.....	1 10 @ 1 12 1/2
Brewing, No. 1 to choice.....	1 20 @ 1 22 1/2
Chevalier, No. 1 to choice.....	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair.....	1 12 1/2 @ 1 32 1/2

### OATS.

For the ordinary run of offerings of white and red oats the market has been rather quiet and has not shown any great strength the past week. Choice to select qualities were not presented for sale in heavy quantities, and buyers in quest of such stock found it necessary as a rule to pay full current figures. Black oats are in very light stock, particularly desirable seed qualities, and latter are commanding stiff prices.

White Oats, fancy feed.....	1 30 @ 1 32 1/2
White, good to choice.....	1 25 @ 1 27 1/2
White, poor to fair.....	1 20 @ 1 22 1/2
Gray, common to choice.....	1 25 @ 1 30
Milling.....	1 25 @ 1 30
Surprise, good to choice.....	1 15 @ 1 30
Black Russian feed.....	1 45 @ 1 60
Black for seed.....	1 45 @ 1 60
Red, fair to choice.....	1 15 @ 1 30

### CORN.

There are fair supplies of Eastern, more than enough to accommodate the immediate demand, and market is easy in tone, the reduced figures lately established not being very well sustained. California corn is not in large stock, nor is it being crowded to sale to any great extent. Corn now on market is mostly of the large varieties, small being in too slim supply to admit of wholesale trading.

Large White, good to choice.....	1 50 @ 1 55
Large Yellow.....	1 50 @ 1 55
Small Yellow.....	1 70 @ 1 75
Eastern, in bulk.....	1 32 1/2 @ 1 37 1/2

### RYE.

While there is not much doing in this cereal, there is a tolerably firm tone to the market, holders as a rule insisting on full current figures.

Good to choice, new.....	1 22 1/2 @ 1 27 1/2
--------------------------	---------------------

### BUCKWHEAT.

None arriving and only small stocks in the hands of local dealers. In quotable values there are no changes to note.

Good to choice.....	2 00 @ 2 50
---------------------	-------------

### BEANS.

There has been a small boom on in the bean market, more particularly in white varieties, which are wanted on Eastern account, the crop East being reported generally poor, much the same as last year. Some claim that local dealers have shorted the market and are rushing to cover, fearing heavier losses by procrastinating. It is doubtful about the market having been shorted to any great extent, but it is known there are large orders on the market from handlers East, who are and have been for some time carrying very light stocks. New Large Whites are now selling for more than was asked for prime 1902 stock a few weeks ago. Some sales are reported for October delivery at \$2.70, supposed to be short. Bayos are lower and are selling at much the same figures as Pinks. In fact, all colored Beans, as also Black-eyes, are going at about the same range of prices. Limas are in fair request at prevailing values, but are moving mainly from southern coast points of production.

Pea, fair to good, 100 lbs.....	3 25 @ 3 40
Small White, good to choice.....	3 00 @ 3 25
Large White.....	2 90 @ 3 20
Pinks.....	2 75 @ 3 00
Bayos, good to choice.....	2 75 @ 3 00
Reds.....	2 60 @ 2 85
Red Kidney.....	2 60 @ 2 85
Limas, good to choice.....	3 50 @ 3 70
Black-eye Beans.....	2 70 @ 2 80
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Buyers are in search of new crop, and are bidding somewhat better figures than have been lately current for either Green or Niles, but the inquiry for the time being appears most active for the latter sort.

Green Peas, California.....	1 85 @ 2 00
Niles Peas.....	2 25 @ 2 35

### HOPS.

Dealers and growers continue to agree to disagree as to values. The market shows a strong tone, but is not active,

growers as a rule contending for stiffer figures than buyers are willing to pay. There are fairly liberal receipts, representing in the main deliveries on contracts. Nearly 200 bales have been forwarded by sea the past fortnight, mainly to Australia and India. New York advices by mail of recent date report as follows: "Rarely does the season open with so much uncertainty as to the probable course of values. Dealers are perplexed and seem inclined to hold off until the situation becomes a little clearer. They have made a few purchases of both new and old hops to have a little stock with which to supply the early trade, but there is not the slightest disposition to stock up. The stronger prices ruling in the country have, however, strengthened the position here, and we have revised quotations to cover such sales as are making. Brewers have been charged 29@30c. for a few 1903 hops, and the finest of the 1902 crop are selling at 25@26c. In this State it is quite certain that the crop will not exceed 50,000 bales; the few samples that have been received do not show proper condition, and it is feared that the quality will not average very good. Up to 27c. has been paid for a few lots. In California previous estimates of 50,000 bales will stand; 25c. is asked in Sonoma, but some lots have sold in the Sacramento district at 23c. The Oregon crop is placed at 80,000 to 85,000 bales, with perhaps 40% of moldy hops, and the balance of fine quality. Washington will probably give 35,000 bales. In these northern sections growers are holding for 27c. but no business. English advices are conflicting; some conservative dealers in London say that the crop will not run over 400,000 cwt., while others give an estimate of 420,000 cwt. Considerable business is being done in the new crop at from 60s. for inferior quality, of which there seems to be a good many, up to 140s. for the finest."

California, good to choice, 1903 crop.....	23 1/2 @ 25
--	-------------

### WOOL.

A few scouring and sorting establishments are again running, the recent labor troubles having been adjusted. There is very little wool offering in this center from first hands, most of the stock coming forward having been purchased in the interior. Most of the Fall clip is now out of the hands of growers and a quiet market is likely to be experienced during the balance of the season. There is a generally healthy tone, quotable values remaining nominally as last noted.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Mountain free.....	10 @ 13
San Joaquin Plains.....	8 @ 11
Nevada.....	12 @ 16

### HAY AND STRAW.

Arrivals of hay continue of fairly liberal magnitude, there being a desire to have the fields cleaned up as speedily as possible, as there is a possibility of having rainy weather at an early day. Medium and lower grades were urged to sale rather freely and for these descriptions the market lacked firmness. Choice to select wheat hay and high grade alfalfa were offered sparingly and met with a firm market. Straw was in ample supply for the immediate demand at full current figures.

Wheat, good to choice.....	10 00 @ 14 50
Wheat and Oat.....	10 00 @ 13 00
Oat, fair to choice.....	8 50 @ 12 50
Barley to choice.....	8 00 @ 11 00
Clover.....	9 00 @ 10 00
Alfalfa.....	8 50 @ 11 50
Stock Hay.....	8 00 @ 9 00
Compressed.....	11 00 @ 14 50
Straw, bale.....	45 @ 60

### MILLSTUFFS.

Market for all kinds of mill offal is inclining in favor of the buying interest, but more especially is this the case as regards Bran, which is in quite fair supply. Rolled Barley remained quotable as last noted, but market was not firm. Market for all Milled Corn products presented an easy tone.

Bran, 1 ton.....	21 50 @ 22 50
Middlings.....	26 10 @ 27 50
Shorts, Oregon.....	21 50 @ 22 50
Barley, Rolled.....	24 00 @ 25 00
Cornmeal.....	32 00 @ 33 00
Cracked Corn.....	33 00 @ 34 00

### SEEDS.

In new crop Mustard nothing of consequence has yet been done, but values are expected to be established at an early date; quotations below are based on latest transactions in last year's product. Canary Seed is offering more freely and market presents an easier tone. There is considerable inquiry regarding Alfalfa, but the market at present is practically bare of stock and there is nothing upon which to base quotations.

Alfalfa, Utah.....	Per cwt. — @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 25 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

Canary.....	Per lb. 5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/2
Hemp.....	3 1/2 @ 4

### HONEY.

The market is firm, but not particularly active, producers in most instances asking stiffer figures than wholesale operators show inclination to pay. Taking the State as a whole, the yield is not large. It is difficult to purchase at primary points at less than extreme figures warranted as wholesale quotations in this center.

Extracted, White Liquid.....	6 @ 6 1/2
Extracted, Light Amber.....	5 1/2 @ 6
Extracted, Amber.....	5 @ 5 1/2
Extracted, Dark Amber.....	4 1/2 @ 5
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	— @ —

### BEESEWAX.

Arrivals and offerings are of quite moderate proportions. Current values are being well maintained.

Good to choice, light B.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Quotable values for Beef remain practically as last noted, with market firm for best qualities, but barely steady for common. Veal is in limited supply and good to choice is selling to fair advantage. Mutton is in fair request, but is selling at slightly lower rates, although an occasional lot of fine Wethers bring 8 1/2c. Lamb now on market is mostly too old to be eagerly sought after, and for the general run of offerings extreme current figures are not readily obtainable. Hogs have been arriving rather freely, but there was no lack of demand for medium size to large in fine condition, and for this description current values were readily realized.

Allowing for the shrinkage of about 50 per cent, which is exacted in huying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net W. B.....	6 1/2 @ 7
Beef, 2nd quality.....	6 @ —
Beef, 3rd quality.....	4 @ 5
Mutton—ewes, 7@7 1/2c; wethers.....	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 6
Hogs, large fat, over 250 lbs.....	5 1/2 @ 6
Hogs, small, fat.....	5 1/2 @ 5 1/2
Veal, small, W. B.....	9 @ 10
Lamb, Spring, W. B.....	9 @ 10

### HIDES, SKIN AND TALLOW.

Business is of fair volume and at generally unchanged figures. Best qualities are not lacking for attention.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	— @ 10	— @ 9
Medium Steers, 48 to 56 lbs.....	— @ 9	— @ 8
Light Steers, under 48 lbs.....	8 @ —	7 @ —
Heavy Cow Hides, over 50 lbs.....	8 @ —	7 @ —
Light Cow Hides, under 50 lbs.....	8 @ —	7 @ —
Stags.....	— @ 6	— @ 5
Wet Salted Kip.....	— @ 9	— @ 8
Wet Salted Veal.....	— @ 10	— @ 9
Wet Salted Calf.....	— @ 10 1/2	— @ 9 1/2
Dry Hides.....	— @ 16	— @ 15
Dry Kip and Veal, 11 to 16 lbs.....	— @ 13	— @ 12
Dry Calf, under 4 lbs.....	— @ 18	— @ 16
Pelts, long wool, W. B. skin.....	1 00 @ 1 50	— @ 10
Pelts, medium, W. B. skin.....	70 @ 90	— @ 65
Pelts, short wool, W. B. skin.....	40 @ 65	— @ 30
Pelts, shearing, W. B. skin.....	15 @ 30	— @ 25
Horse Hides, salted, large prime, each.....	2 75	— @ 25
Horse Hides, salted, medium.....	2 50	— @ 20
Horse Hides, salted, small.....	2 00	— @ 15
Horse Hides, dry, large.....	1 75	— @ 12
Horse Hides, dry, medium.....	1 50	— @ 10
Horse Hides, dry, small.....	1 25	— @ 8
Tallow, good quality.....	4 1/2 @ 4	— @ 3 1/2
Tallow, poorer grades.....	3 1/2 @ 4	— @ 3

### BAGS AND BAGGING.

Little doing in this department, as is generally the case at this time of year. Large quantities of Grain Bags of this season's importation remain unplaced. Quotable values throughout remain nominally as last noted.

Bean Bags.....	4 1/2 @ 5
Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 5
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/2
Grain Bags, Calcutta, buyer June.....	— @ —
Grain Bags, San Quentin, in lots of 2 000, 100.....	5 55 @ —
Wool Sacks, 4-lb.....	32 @ —
Wool Sacks, 3 1/2-lb.....	30 @ —

### POULTRY.

Considering the heavy arrivals of poultry the past week, good average prices were realized, especially for young fowls of desirable size and in fine condition. In addition to tolerably free receipts of California product, seven carloads of Eastern fowls were landed here within the week. On account of the Jewish New Year there was a more than ordinarily active demand, particularly for large and fat fowls.

Turkeys, young, W. B.....	20 @ 22
Turkeys, old, W. B.....	15 @ 16
Hens, California, W. B. dozen.....	4 50 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	5 00 @ 5 50
Fryers.....	3 50 @ 4 50
Broilers, large.....	3 00 @ 3 50
Broilers, small to medium.....	2 50 @ 3 00
Ducks, old, W. B. dozen.....	4 00 @ 5 00
Ducks, young, W. B. dozen.....	5 00 @ 6 00
Geese, W. B. pair.....	2 00 @ 2 25
Goslings, W. B. pair.....	1 50 @ 2 00
Pigeons, old, W. B. dozen.....	1 50 @ 2 00
Pigeons, young.....	1 50 @ 2 00



BUTTER.

This market has continued on much the same lines as preceding week, the inquiry for fresh being confined largely to most select, which was in limited stock and brought good prices. Cold storage goods were given the preference over common grades of fresh. Many retailers are now running on their own cold storage holdings, contracted for early in the season.

Creamery, extras, # 10.....	31	@	—
Creamery, firsts.....	30	@	—
Dairy, select.....	29	@	—
Dairy, firsts.....	28	@	27
Dairy, seconds.....	20	@	22
Firkin, good to choice.....	—	@	—
Mixed Store.....	18	@	19
Pickled Roll.....	—	@	—

CHEESE.

Market is well stocked with flats, other than extra mild new of high grade, and for general offerings is weak, with demand slow and almost wholly for immediate needs. Small sizes are not plentiful, neither is the inquiry for them very brisk.

California, fancy flat, new.....	13	@	—
California, good to choice.....	11 1/2	@	12 1/2
California, "Young Americas".....	13 1/2	@	14
Eastern.....	14	@	16

EGGS.

Fancy fresh are in light stock and in a small way are bringing stiff prices, as high as 40c having been asked, but sales over 37 1/2c were the rare exception, and then the eggs had to be not only fresh, but uniformly large and white. For fresh eggs of mixed colors and sizes 35c was an extreme quotable figure, with sales down to 32 1/2c where there was a considerable percentage of pullets' stock. The run on local and Eastern cold storage eggs is heavy, and these are going at comparatively easy figures.

California, select, large, white and fresh.....	37 1/2	@	—
California, select, irregular color & size.....	30	@	35
California, good to choice store.....	22 1/2	@	25
Eastern.....	22	@	25

VEGETABLES.

The general condition of the market has continued much the same as preceding week. Most kinds in season were in sufficient supply for the immediate demand. Tomatoes were not in heavy receipt and sold as a rule to fair advantage, canners being free buyers. String and Lima beans tended in favor of the selling interest, with arrivals rather light. Most of the Green Corn offerings was of only common to medium quality. Onions were not in active request, and values were barely steady.

Beans, Lima, # 10.....	2 1/2	@	3 1/4
Beans, String, # 10.....	2 1/2	@	4
Cabbage, choice garden, # 100 lbs.....	60	@	—
Corn, Green, # crate.....	1 00	@	1 75
Corn, Green, # sack.....	1 00	@	1 50
Cucumbers, # large box.....	35	@	60
Egg Plant, # box.....	40	@	65
Garlic, # 10.....	2	@	3
Onions, Yellow Danver, # cts.....	50	@	65
Okra, Green, # small box.....	35	@	50
Peas, Sweet Garden, # 10.....	2 1/2	@	3
Peppers, Green Chile, # box.....	35	@	60
Peppers, Bell, # box.....	35	@	60
Summer Squash, # large box.....	40	@	65
Tomatoes, Bay, # large box.....	40	@	65

POTATOES.

There were more liberal arrivals of potatoes than during the preceding week, with no corresponding increase in the demand, and the general trend of the market was in favor of buyers, although in quotable values there were no pronounced changes effected. Demand was mainly on local account. Offerings of Sweeties were on the increase, and market was lower, with demand not particularly brisk at the easier figures current.

Sacramento River Burbanks.....	50	@	90
Salinas Burbanks, # cental.....	1 25	@	1 50
Early Rose.....	—	@	—
Sweeties.....	1 40	@	1 65

The Fruit Market.

FRESH FRUITS.

There were no heavy stocks of choice to select tree fruit of any description, and market was in the main firm for this sort. Desirable qualities of 4-tier Apples were in good request, both on local account and for shipment. Tolerably large quantities of this fruit, mainly Gravensteins, went outward per last steamer for Australia. Bartlett Pears are practically out for the season. Late Pears other than Winter Nells are in fair supply; present offerings are mostly cooking varieties, and for them there is no very active demand. Peaches showed reduced receipt and for good to choice the market was firm, with tendency to slightly higher figures than had been ruling. Figs were in reduced stock, and in a limited way brought a moderate advance. Pomegranates were in good supply and inquiry for this fruit not particularly active. Plums and Prunes were not in heavy stock, and for desirable qualities comparatively good figures were obtainable. Grapes of table varieties were in fair request, with inquiry mainly for crates, and while quotable values were without marked changes, sales at inside figures were less frequent than

previous week. Wine Grapes moved rather slowly and averaged a little lower than last quoted. Berries were in light receipt, with demand limited and prices without special improvement. Watermelons were in light supply and hardly quotable. Cantaloupes and Nutmeg Melons sold at a wide range, owing to great difference in ripeness and general condition.

Apples, fancy, # 4-tier box.....	1 00	@	1 25
Apples, good to choice, # 50-box.....	65	@	90
Apples, common to fair, # 50-box.....	30	@	60
Blackberries, # chest.....	2 50	@	5 00
Cantaloupes, # crate.....	1 50	@	2 50
Crabapples, # small box.....	—	@	—
Figs, Black, # box.....	50	@	1 00
Figs, White, # box.....	35	@	70
Grapes, # crate.....	50	@	90
Grapes, # small box.....	50	@	1 00
Grapes, # large open box.....	50	@	1 00
Grapes, Royal Isabella, # crate.....	75	@	1 00
Grapes, Zinfandel, # ton.....	22 00	@	24 00
Nutmeg Melons, # box.....	75	@	1 25
Peaches, # box.....	40	@	90
Peaches, good to choice cing, # ton.....	20 00	@	25 00
Peaches, good to choice freestone, # ton.....	20 00	@	25 00
Pears, Bartlett, # box.....	1 50	@	1 75
Pears, other varieties, # box.....	50	@	1 00
Plums, Coe's Late Red, # box.....	40	@	75
Pomegranates, # box.....	5	@	1 00
Prunes, # box.....	40	@	65
Raspberries, # chest.....	5 00	@	7 00
Strawberries, Melinda, # chest.....	2 50	@	5 00
Watermelons, # 100.....	10 00	@	20 00
Whortleberries, # lb.....	6	@	7

DRIED FRUITS.

The market for cured and evaporated fruits shows fully as firm if not firmer tone for most descriptions than at date of last review. Inquiry is active for Peaches, Pears and Pitted Plums, and holders in many instances are refusing to sell at current bids. Prices being paid for above kinds are averaging better than at any previous date since the season opened, particularly in the case of Pitted Plums, the output of which this year is proving decidedly light. The quantity of Peaches being turned out in a dried state this season is much smaller than was generally estimated while the crop was maturing. Pears of fair to medium quality are in moderate stock, but choice to fancy are difficult to find in anything like wholesale quantity, and are commanding stiff prices. The Apple market does not display any special firmness, owing to the easy tone East, but quotable values remain virtually as last noted and to purchase freely of desirable qualities full current figures would have to be paid. Apricots make a light showing, particularly in the display of offerings from first hands, and prevailing values are being well maintained, with no probability of receding during the balance of the season. In the Prune market, bids and asking prices for new stock continue as a rule too far apart for active trading. That the crop is comparatively light and under early estimates is a foregone conclusion. Some sales have been effected on the 2 1/2 @ 3c basis for the four sizes, latter figure for Santa Claras, and higher prices are being asked, but bids generally are under the range quoted. The steamer Colon, sailing on the 19th, took 114,500 pounds old Prunes for Germany.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/2	@	5
Apples, extra choice to fancy, 50-lb box.....	5 1/2	@	6
Apricots, Moorpark.....	8	@	11
Apricots, Royal, good to choice, # lb.....	7	@	8
Apricots, Royal, fancy.....	8 1/2	@	9
Figs, 10-lb box, 1-lb cartons.....	60	@	75
Nectarines, # lb.....	4	@	5
Peaches, unpeeled, fair to good.....	5	@	4 1/2
Peaches, unpeeled, choice.....	5	@	5 1/2
Peaches, unpeeled, fancy.....	6	@	6 1/2
Peaches, unpeeled, extra fancy.....	7 1/2	@	—
Peaches, peeled.....	10	@	12 1/2
Pears, halves, fancy.....	8	@	9
Pears, halves, choice.....	6	@	7
Pears, halves, fair to good.....	5	@	6
Plums, Black, pitted.....	5	@	6
Plums, Red and Yellow.....	6 1/2	@	7 1/2
Prunes, Silver, good to fancy.....	—	@	—
Prunes, in bags, 4 sizes, 2 1/2 @ 3; 40-50s, 1 1/2 @ 1 3/4; 50-60s, 4 @ 1 1/2; 60-70s, 3 1/4 @ 3 3/4; 70-80s, 3 @ 3 1/4; 80-90s, 2 1/2 @ 2 3/4; 90-100s, 2 @ 2 1/4; small, — @ — c.			

COMMON SUN-DRIED.

Apples, sliced.....	3 1/4	@	3 3/4
Apples, quartered.....	3 1/2	@	3 3/4
Figs, White, in bulk.....	3	@	4
Figs, Black, in sacks, # lb.....	3	@	3 1/2
Plums, unpitted, # lb.....	—	@	—

RAISINS.

Shipments of new crop Raisins are being made and the quality is reported to be generally fine, the weather having been favorable for curing. The Association prices for loose Muscatel in 50-pound boxes are 6 @ 6 1/2c for 2 crown, 6 1/2 @ 6 3/4c for 3 crown and 6 3/4 @ 7c for 4 crown, the top figure for Fresno product, and the lower price for outside districts.

CITRUS FRUITS.

Trading in Oranges is very light. Valencia's are offering at somewhat easier figures than lately quoted. Lemon market has ruled quiet most of the week, and while not materially lower as regards quotable values, there was no special firmness. Limes are in better supply and prices are lower.

Oranges, Valencia's, # box.....	1 50	@	3 00
Lemons, California, select, # box.....	2 75	@	3 00
Lemons, California, good to choice.....	2 00	@	2 50
Lemons, California, fair to good.....	1 00	@	2 00
Grape Fruit, # box.....	1 50	@	2 50
Limes, Mexican, # box.....	6 50	@	6 50

NUTS.

Almonds are not offering in heavy quantity and market is showing a rather firm tone, the quotable range of values remaining unchanged. Very few Walnuts now in stock, but new crop is expected to be in fair supply at an early date. Orders are being booked for the holiday trade on the 1 1/2c basis for soft shell, but buyers are not purchasing heavily. Peanuts are being steadily held and are in moderate request.

California Almonds, shelled.....	15	@	18
California Almonds, paper shell.....	9	@	11
California Almonds, soft shell.....	7	@	8
California Almonds, hard shell.....	5	@	6
California Walnuts, paper shell.....	—	@	—
California Walnuts, soft shell.....	12 1/2	@	—
California Walnuts, standard.....	12	@	—
Peanuts, fair to prime.....	4 1/2	@	5 1/2
Peanuts, Eastern, hand-picked.....	5 1/2	@	6 1/2

WINE.

Business is of a slow order, so far as transfers of wines from first hands are concerned. Dry wines of last year's vintage remain quotable nominally at 15 @ 18c. per gallon, but these figures are at present more in accord with the views of sellers than with the bids of wholesale buyers. The British bark Inveresk took as part cargo 11,117 gallons wine for London. The steamer Colon, sailing on the 19th inst., carried 69,779 gallons and 60 cases, including 66,145 gallons for New York. Receipts at San Francisco last week were 364,250 gallons, and for previous week were 238,200 gallons. Growers are making vigorous protests against the prices for grapes named by the Wholesalers' Association, and many are arranging to make wine instead of selling grapes. More assert they will arrange to make wine next season. Some outsiders are now getting above Association prices for their wines, on account of quality being better.

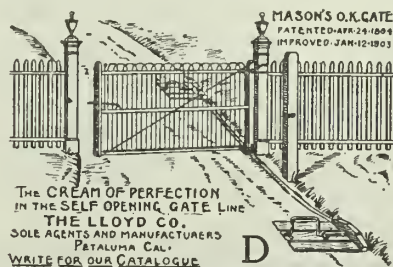
Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, # sks.....	111,867	1,393,429
Wheat, cts.....	31,840	466,658
Barley, cts.....	201,095	1,735,992
Oats, cts.....	41,247	339,353
Corn, cts.....	8,835	36,118
Rye, cts.....	3,645	18,458
Beans, sks.....	14,754	41,934
Potatoes, sks.....	22,894	272,300
Onions, sks.....	7,480	46,067
Hay, tons.....	5,589	61,946
Wool, bales.....	1,611	14,287
Hops, bales.....	2,057	4,487

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, # sks.....	128,756	927,724
Wheat, cts.....	267	141,858
Barley, cts.....	78,102	1,127,739
Oats, cts.....	496	6,844
Corn, cts.....	351	4,169
Beans, sks.....	479	4,609
Hay, bales.....	2,301	39,815
Wool, lbs.....	1,260,659	340,507
Hops, lbs.....	28,881	95,427
Honey, cases.....	17	215
Potatoes, pkgs.....	1,860	19,213



**WIRE GOODS**  
DIPPING BASKETS  
**West Coast Wire & Iron Works,**  
19 Fremont Street, San Francisco, Cal.

**PAGE**  
**TEST PAGE FENCE ONCE**  
and you'll never be satisfied with any other.  
**PAGE WOVEN WIRE FENCE CO., Adrian, Mich.**

**3-HORSE POWER**  
**Webster Gasoline Engine.**  
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.  
SEND FOR CATALOGUE.  
**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

Full Sacks

of plump, rich grain are obtained by the use of a fertilizer containing not less than 6% actual

Potash

For Wheat, Rye, Barley, and all other grains, Potash is most essential.

Write for our books, they are free to farmers.

German Kall Works, 93 Nassau Street, New York.



MEYER, WILSON & CO., San Francisco, Cal., Sole Agents for the Pacific Coast.

MALTHOID ROOFING



Made in California where materials are produced. The lowest priced roofing made. Lasts longer than all others. It is weather and water-proof and fire resisting.

Send for booklet.

The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the Mining and Scientific Press. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

PATENT AGENTS,

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.

CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)  
**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.





**HARPLES**  
**TUBULAR**  
**Cream Separators**

If we cannot show you wherein our separators are worth at least fifty per cent more than other separators, don't buy them. We want you to know that you have the best when you buy a Tubular. You cannot help being convinced if you examine a Tubular. You will find it entirely different from other separators. Write for free catalogue No. 131.

THE SHARPLES CO., P. M. SHARPLES,  
Chicago, Illinois. West Chester, Pa.

## AGRICULTURAL ENGINEER.

### Better Roads Considered by the Trans- mississippi Congress.

The Transmississippi Commercial Congress, which held its fourteenth annual session at Seattle, August 19th, 20th and 21st, took up the subject of good roads for consideration for the first time. It was a noticeable fact that whatever difference of opinion there might have been as to other questions under consideration, there was absolute unanimity prevailing as to the good roads question, and the necessity for a general co-operation between the United States and the different States or civil subdivisions thereof, to hasten their permanent improvement. The subject was thoroughly discussed by R. W. Richardson of Omaha, Neb.; J. W. Abbott of Denver, Colo.; Hon. Martin Dodge, director of the office of Public Road Inquiries, Washington, D. C., and many delegates from the different States and Territories.

Director Dodge has just returned to his desk at Washington. In an interview with a representative of the press, Mr. Dodge has the following to say regarding the sentiment for better roads at the Transmississippi Congress:

"The point was clearly made that many of the interior States and Territories, especially in the mountain districts, have no navigable rivers and harbors, and that, therefore, they receive only remote and indirect benefits from the expenditure of the vast sums of money appropriated for the improvement of rivers and harbors, and that it would be just and equitable if the general government should lend its assistance to the building and maintaining certain public highways through such States and Territories. It was not contended that the United States Government should bear the total cost of building such roads, but that they should pay a contributory share, not to exceed one-half, as provided in the Brownlow bill. This was thought to be more just on account of the fact that the burden of raising the enormous revenues of the United States Government rests as much upon the people in the rural States and districts as upon all other classes combined. The revenues of the general government approximate \$10 per capita per annum, whereas the revenue of the State governments is only about \$1 per capita. The revenues of the general government are so large, and are raised in such a manner by indirect taxation, that there would be neither hardship nor inequity if the United States should bear a considerable portion of the costs of improving some of the principal highways in the various States and Territories. It would seem that the best and most equitable method would be to require the United States to pay a portion of the cost, the State a portion, the county a portion and the property owners in the vicinity of the road a portion."

After a full discussion of the question before the convention and the committee on resolutions, the following resolution was unanimously adopted both in the committee and by the convention:

"Recognizing that properly con-

structed highways are primarily essential to the highest development and commercial prosperity of the transmississippi country, and believing that it is neither equitable nor feasible to secure them wholly at the expense of the local districts, but that their cost should be pro rated among all interests benefited; therefore be it

"Resolved, By the Transmississippi Commercial Congress, in convention assembled in the city of Seattle, that we urgently recommend to the several States that they adopt a system of highway improvement, under competent engineering supervision, embodying the general principles of the modern plan of State aid now successfully practiced in many of the older States; and that we favor the still further distribution of the burden by enlisting the aid of the national government, and request the active support of our representatives in Congress for this policy."

### Mr. Hutchinson's Observations at the East.

B. E. Hutchinson, who went East for the California Promotion Committee, tells the Fresno Republican of his summer's work. He went back principally to bring out laborers, and in this he was quite successful. At the present time there is no stringency in the labor market in Fresno, and Mr. Hutchinson believes this is due to the previous work of the Promotion Committee. The railroad figures show that of the thousands who took advantage of the low excursion rates this spring, 36,000 have remained in the State. A large part of these constitute what might be termed an elastic labor supply, gravitating toward work, and, when the rush is over, seeking employment where help for other purposes is needed. Just now these people are flowing into Fresno to pick grapes. Several large vineyardists have told Mr. Hutchinson that they have had less trouble in obtaining labor this year than during any year of the last five.

Contrasting conditions in California with those in Michigan and neighboring States, Mr. Hutchinson said:

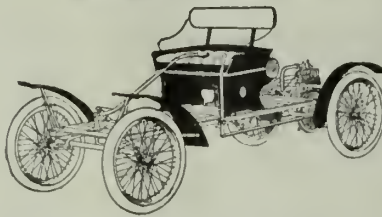
"We don't know what it is to want help, compared with the farmers back East. The farmers there do just what they can with their own family, letting the rest of their land go to weeds, as it is almost impossible to get help. All the young men prefer to work in the factories in the towns. Farm life has no attraction for them. In Fort Wayne, Ind., a large delegation of men came to see me and said they had about given up the idea of making a living on the farms and they are coming West."

Mr. Hutchinson tells the same story about southern California being the whole thing in the mind of the Easterner. "Oh, yes," they say, "we've been all through California; we've been from Los Angeles to Riverside, and then on the return we passed through Redlands and all that country." Asked what they thought of the trip from Los Angeles to San Francisco, or from San Francisco through the northern part of the State, they say, "Oh, we didn't take that trip."

In Santa Clara, Mr. Hutchinson learned of three families that had come to California as a result of his efforts, and he has received a letter from B. F. Cooper stating that a carload of people from Petoskey, Mich., would start for California as soon as the low rates take effect. These will be people of some means, however, who will seek opportunities to buy property. From San

Francisco they will scatter through the State, and Fresno will doubtless get some of them. As Mr. Hutchinson went to represent the whole State, he could boost no particular section. He told them that it was "all California."

### MODERN LOCOMOTION.



Along the lines of human progress more money has been spent on means of locomotion and transportation than on any other thing. The carriage of state, the railway car, the bicycle, besides water craft, have worried the brains of ages to perfect. Now comes the latest and best of all—the automobile. To most people the auto carriage is a thing of luxury and only within reach of the very rich. So it has been until this year. With the coming of the ORIENT MOTOR BUCKBOARD a new field has been entered—a new era in automobiles begun. The vehicle of low price, simplicity to the greatest degree, economy, high power and light weight, to go, to get there, to return, no trouble—that is the automobile problem. Even in a country where horse feed is the lowest and gasoline the highest, this marvel is ahead of the horse. The price is \$450 delivered to any point in California. The Motor Vehicle Co., 1814 Market St., San Francisco, will be glad to answer all inquiries concerning the buckboard.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS  
**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

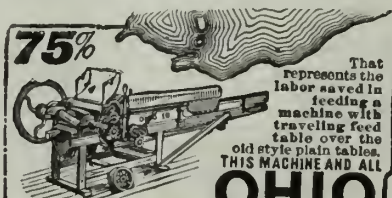
If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## The Fresno Scraper.

3 1/2-4-5 Foot.



FRESNO AGRICULTURAL WORKS,  
FRESNO, CALIFORNIA.



**75%**  
That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. THIS MACHINE AND ALL

**OHIO**  
**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL. AN ACRE OF CORN and its possibilities.

Gen'l Agts.  
HOOKER & CO.  
16-18 Drumm St.  
SAN FRANCISCO

Price, 10c in stamps  
**DEWEY, STRONG & CO.,**  
San Francisco, Cal., and Washington, D. C.

### NOTE IT DOWN!

**THE CREAM  
U.S. SEPARATORS  
ARE  
THE  
BEST**



**BUY ONE AND PROVE IT**

We have the following transfer points: Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Montreal, Quebec, Sherbrooke, P. Q., Hamilton, Ont. Address all letters to Bellows Falls, Vt.  
**Vermont Farm Machine Co.,**  
Bellows Falls, Vt.

## THE "BOSS" TREE PROTECTOR.



Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

### PRICES:

12 inches long,	\$ 9.00 per 1000.
14 "	" 10.00 "
16 "	" 11.50 "
18 "	" 12.50 "
24 "	" 15.00 "
30 "	" 17.50 "

Agents Wanted  
Everywhere.

**YUCCA MANUFACTURING CO.,**  
450 SANTA FE AVE., LOS ANGELES, CAL.

## WEATHER VANES



WAGON and PORTABLE  
SCALES.

HAND, PLATFORM and  
SPECIAL TRUCKS.

HALL'S SAFES,  
The Standard for Over  
Sixty Years.

COFFEE MILLS,  
MONEY DRAWERS, Etc.

**HOWE SCALE CO.**

12 & 14 Pine St., San Francisco. Phone Main 1305.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction.

Write for circular.

**RIALTO CANNER CO., STOCKTON, CAL.**

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,  
Surveying, Architecture, Drawing and Assaying  
113 FULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$60. Established 1864. Send for Circular.

## \$5,000 Reward.



Anybody can secure that amount who will prove that any letter or endorsement which we publish in any way, relative to the merits of

**Tuttle's Elixir**

is spurious or untruthful. It needs nothing but the truth to support it. It is undoubtedly the best veterinary remedy known to man.

Used and Endorsed by Adams

**Tuttle's American Condition Powders**  
—A specific for impure blood and all diseases arising therefrom.  
**TUTTLE'S FAMILY ELIXIR** cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.  
Tuttle's Elixir Co., 88 Beverly St., Boston, Mass.  
487 O'Farrell St., San Francisco, Cal.  
Beware of so-called Elixirs—none genuine but Tuttle's.  
Avoid all bilsters; they offer only temporary relief, if any.



# Benicia-Hancock Disc Plows

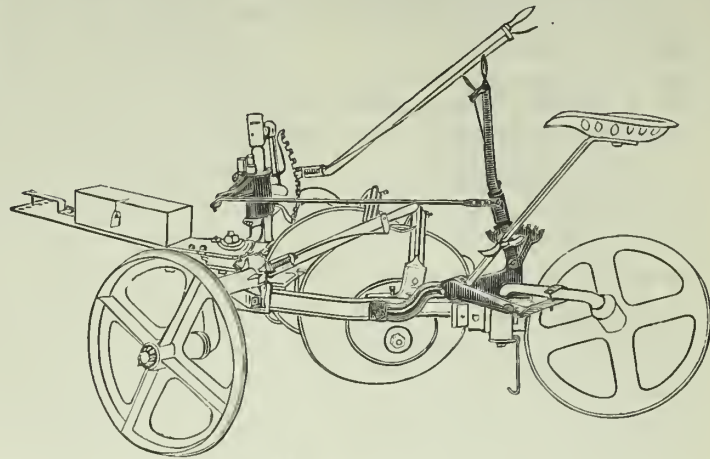
## 1, 2, 3, 4, 5 or 6-DISC.

In addition to our regular field Disc Plows, we manufacture the same plow for **ORCHARD USE**.

Will do better work with one-third to one-half less draft than any other disc or mouldboard plow made.

It is constructed to run close to the ground.

It bends the weeds and stalks as it passes over them and forces them into the furrow, and they are fully covered up and enrich the ground. In this respect, to say nothing of the draft and other advantages, it is a hundred per cent ahead of the IMITATION HIGH TRESTLE DISCS that others are trying to make, and we are ready to prove our assertion. We guarantee it to plow hard, dry ground where all others fail.



## The Reversible Disc Plow

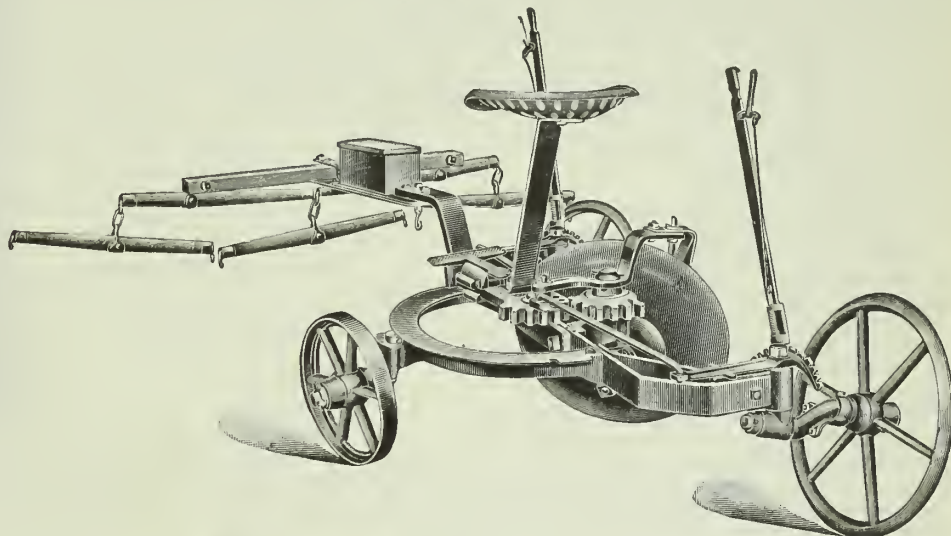
FOR WORK ON HILLSIDES.  
FOR DEEP PLOWING.

Will replace any single sulky plow and do better work. No dead furrows left.

The public has been looking for such a plow for years. If our agents cannot tell you about it, write us.

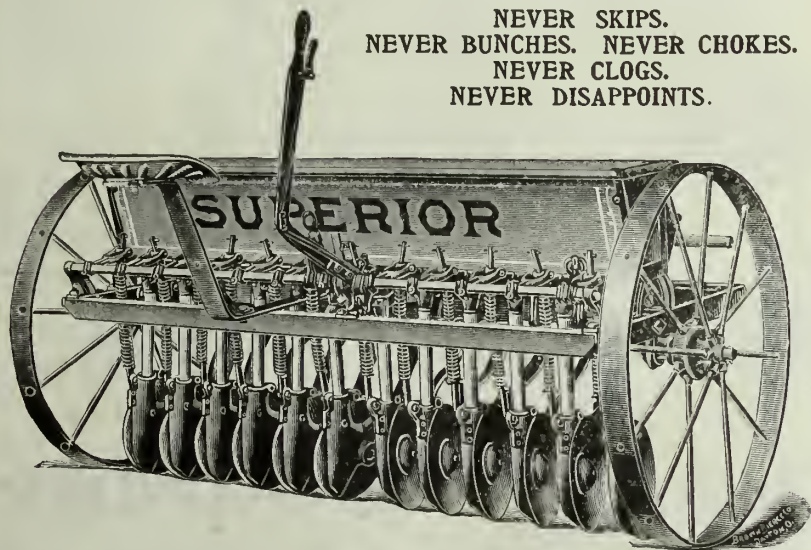
Don't be misled into buying any Disc Plow until you try the **BENICIA-HANCOCK** in your own field—**AT OUR RISK**. Other plows may still be improving, but the **BENICIA**, with its patented features, is away in the lead **AND WILL STAY THERE**.

Write for circulars and our liberal offer to all bona fide intending purchasers of a Disc Plow.



# BAKER & HAMILTON

SACRAMENTO, SAN FRANCISCO, LOS ANGELES, CAL.



NEVER SKIPS.  
NEVER BUNCHES. NEVER CHOKES.  
NEVER CLOGS.  
NEVER DISAPPOINTS.

## The Superior Single Disc Drill.

CONSTRUCTED OF THE BEST MATERIAL MONEY WILL BUY.

**SUPERIOR SPECIAL FEATURES:**

Broad-Tire Wood or Steel Wheels. Both Wheels Drivers.

Solid Steel Frame. Rear Lift. Perfect Balance. Light Draft.

Perfect Double Tree Hitch. Detachable Grass Seeder.

Draw Bars Made of High Carbon Steel. Each Disc and Drag Bar Independent.

Disk Wheel for Changing Quantity Without Change of Parts.

Perfect Direct Spring Pressure.

Pull Rod to Shut Off Feeds Without Raising Discs from Ground.

SEND FOR CATALOGUE.

## The H. C. Shaw Co.,

AGENTS, STOCKTON, CAL.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Squashes.
Garden Drainage in California.	Celery.	Tomato.
Cultivation.	Chicory.	Turnip.
Fertilization.	Corn.	Vegetable Sundries.
Garden Location and Arrangement.	Cucumber.	Vegetables for Canning and Drying.
The Planting Season.	Egg Plant.	Seed Sowing in California.
Propagation.	Lettuce.	Garden Protection.
Asparagus.	Melons.	Weeds in California.
	Onion Family.	
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## Patrons of Husbandry.

### Tulare Grange.

To THE EDITOR:—This Grange held its regular semi-monthly session at its hall on the 19th inst.

After reading and approval of minutes of the last previous meeting, one application for affiliation was received and referred to a committee.

A circular communication from Prof. E. J. Wickson, relative to farmers' institutes, was read, and the secretary was instructed to write to Prof. Wickson, asking him to set a date between the middle and last of November next for a three days' farmers' institute at Tulare. No night session: one session (either forenoon or afternoon) to be spent at the U. S. Experiment Station, to inspect the work of the station, under the guidance of Prof. Stubenrauch, who is the superintendent of experiment stations.

The secretary read a letter from Hon. M. J. Daniels, promising to send to the Grange a supply of Year Books of the Department of Agriculture for the years 1901 and 1902, for which the Grange thanked him.

The special committee appointed to interview the supervisors advocating a bounty of 1½ cent on killing squirrels, or the distribution of poison for that purpose, made a partial report.

The subject of the day, "What Has Been the Most Beneficial Invention of the Past Twenty Years?" was taken up and discussed.

On this subject the members seemed to have no positive views. Considering the rapidity with which in the past twenty years new and useful inventions have been made and new scientific discoveries made, no one cared to say positively any one is the most useful. One thought the perfection of telephonic communication. Another thought the development of electrical transmission and its application as a power. Another thought the ex-ray might be. No one was decided.

The question box was now opened and the following question drawn: "Is Our Present System of Taxation Equitable and Just; if not, What Change Is Advisable?" The subject of taxation comes home to every farmer. As a class, there is none so closely taxed to the full cash value of their property as are farmers, while there are large numbers of citizens, with much better incomes than most of our farmers, who pay no tax. Much interest in the consideration of this subject was shown by the members present, all of whom had some views to give on the subject. While the consideration of the subject was more of a discursive than a debatable one, all agreed that, while the theory of taxation of all property, real and personal, for revenue purposes, may seem fair, the actual practice of it is unjust, inequitable and a failure, and a better and more practically equitable system is needed and should be devised. The members of Tulare Grange fully agree with the report of the special committee of the California Senate appointed to consider the subject, that "from Maine to Texas and from Florida to California, there is but one opinion as to the working of the present system—that is, that it is inequitable, unfair and positively unjust." Governor Pardee, in his inaugural address, very fully discusses this subject. That the present system of taxation of real and personal property for State and county purposes is defective and unjust, is glaringly shown by the intense bitterness of condemnation by the leading papers of San Francisco of the State Board of Equalization for its efforts to equalize the assessments of the different counties.

This Grange assumes the papers and persons, so active in denouncing the State Board of Equalization, are as honest in their denunciation as is the State Board in its action. Granting both are equally honest, it only intensifies the defectiveness of the system which gives rise to such a disparity of views and creates such a bitter feeling. As long

as assessments of real and personal property for county purposes, made by county assessors, are the assessments for State revenue, discontent and trouble will result. It is human nature, which can not be changed until mankind is regenerated.

We believe, then, that the section of the Constitution of California requiring real and personal property to be assessed for a State revenue should be changed; that the revenue for the support of the State should be raised by other means than by assessments of real and personal property, as is done in other States. What is done in other States can be done equally as well in California. Then no occasion would arise for the bitterness of feeling now displayed; the State will be collecting its revenue every business day of the year in a way that will never embarrass the taxpayer—in a way that will provide the money for State expenses as needed—in a way that will not tie up from circulation large amounts of money every year.

Let the State Grange take this matter up; it is strictly patriotic and non-partisan; let it prepare an amendment to the Constitution of California providing a revenue for State purposes by other means than now provided, and abolishing all taxes for State purposes on real and personal property; let it urge this before the different State political conventions; let it be urged before these bodies on patriotic and equitable grounds, and California will have a better and more equitable system of taxation than she now has.

J. T.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING SEPTEMBER 8, 1903


- 738,264.—POWER PRODUCER—O. E. Waxel, Oakland, Cal.
- 738,647.—CAR FENDER—Williams & Britton, Seattle, Wash.
- 738,595.—MOORING SCOWS—J. Ayers, Portland, Or.
- 738,384.—WOODEN STAVE PIPE—A. Badolster, Alameda, Cal.
- 738,517.—FILLING TEETH—R. K. Belden, S. F.
- 738,400.—LIFE RAFT—B. W. Booker, Berkeley, Cal.
- 738,520.—TOOL TURRET—O. L. Brainard, Verdi, Nev.
- 738,403.—ELECTROVIBRATORY APPARATUS—F. H. Brown, Los Angeles, Cal.
- 738,408.—GRAVEL WASHER—J. G. Camp, Sacramento, Cal.
- 738,291.—GOLD SAVING DEVICE—P. H. Carlyon, Olympia, Wash.
- 738,535.—TRANSMITTER—J. P. Conway, Los Angeles, Cal.
- 738,286.—GANG EDGER—F. W. Cook, Seattle, Wash.
- 738,416.—DRILLING ENGINE—J. B. Damas, Sonora, Cal.
- 738,430.—GAS GENERATOR—W. C. Dillon, Los Angeles, Cal.
- 738,422.—TRY SQUARE—A. Duffy, S. F.
- 738,423.—MOLDING FLASK—E. G. Durant, Pasadena, Cal.
- 738,671.—HARROW—J. F. Fulkerson, Oxnard, Cal.
- 738,316.—PHONOGRAPHS—E. Gilbert, Portland, Or.
- 738,317.—PHONOGRAPHS—E. Gilbert, Portland, Or.
- 738,611.—PULLEY FASTENING—A. W. Hight, Ballard, Wash.
- 738,612.—BORING MACHINE—E. Hipolito, Los Angeles, Cal.
- 738,686.—BOTTLE—W. E. Johnson, Hatton, Wash.
- 738,455.—BLACKING BRUSH—E. R. King, East Oakland, Cal.
- 738,615.—SAW SET—P. H. L. Klette, Bates, Cal.
- 738,348.—WINCH—J. J. McDonald, Port Madison, Wash.
- 738,571.—MINER'S CANDLESTICK—R. P. Rasmussen, Integral, Cal.
- 738,361.—HARROW—G. D. Schlosser, Sunnyside, Wash.
- 738,635.—OIL BURNER—G. W. Sievert, Los Angeles, Cal.
- 738,579.—GAS EXTINGUISHER—V. A. Strom, Alameda, Cal.
- 738,503.—PIPE COUPLING—F. R. Waters, Salem, Or.



**RED CROSS WIND MILLS**

ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURNABLE. SEND FOR CATALOGUE. MAILED FREE.

**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.



Single and Double Acting Deep Well Pumps of the highest efficiency.

**STEAM AND GEARED PUMPS** pumping water supply for cities, railroads and factories.

**THE DOWNIE PUMP COMPANY.**  
Box 21, Downieville, Pa.

Telephone Main 199.  
**Blake, Moffitt & Towne,**  
**DEALERS IN PAPER.**  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

## There are Two Sides to Successful Dairying--COWS AND A DE LAVAL SEPARATOR.



**A Cream Separator WILL PAY YOU**

if you buy the right machine and there is only one right machine.

**DE LAVAL CREAM SEPARATORS**

are used exclusively by every large and experienced creamery and dairyman the world over.

Profit by the experience of 400,000 farmers and equip your dairy with a De Laval. Especially valuable in home dairying.

Everything needed in the dairy supply business carried by us. We carry the largest stock of dairy supplies on the Pacific Coast.

Write for the new 20th Century Catalogue.

**DE LAVAL DAIRY SUPPLY COMPANY,**

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

## POOR SEPARATORS MAKE POOR FARMERS!



## PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue, with Prices.

**BURNHAM-STANFORD CO.,**  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.

## Why Use Expensive Power?

PUMP, SPRAY, SAW WOOD, CUT FEED, CHURN, and do any other work better and cheaper with a

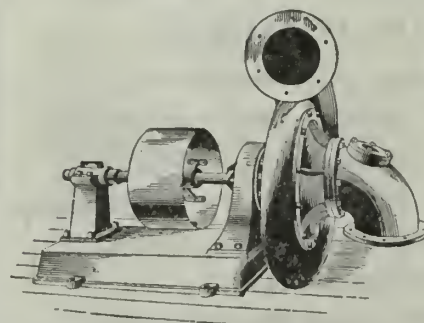
## 20th CENTURY WONDER

than you have ever done before.

USES FUEL AT 2c. TO 5c. PER GAL. 1½ TO 30 H. P. SIZES.

WRITE AT ONCE.

WONDER ENGINE CO., 321 Mission St., San Francisco.



## PEERLESS Centrifugal Pumps

—AND—

## Gasoline Engines FOR ALL PURPOSES.

Complete Pumping Plants Furnished. SEND FOR SPECIAL QUOTATIONS.

**Baker & Hamilton,**  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.

# PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. **DEWEY, STRONG & CO.** (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



## How Prof. Carlyle Judges Cattle and Educates Their Owners.

(CONTINUED FROM PAGE 193)

this part, and they come on back to about that place. The shoulders—what is called the chuck—is cheap meat; all along the lower part of the body is cheap meat, stew meat and flanks—they call it Italian meat in the East; and the neck, of course, is cheap meat.

That next one is a very fine animal, and that is one of the most popular colors; I don't know why it should be so, but that particular color seems to have what we call mellowness. And in the skin, just notice the hide of that fellow; he has that unctuous and smooth skin which seems to be associated with a good feeder, with an animal that assimilates large quantities of food and is less fastidious in his feeding.

These three that you see in front here are the younger ones; they are all heifers that have been bred in California, and reflect a great deal of credit on their breeders. Here you see some calves! The first prize calf is better, but she has been so gay since she won the first prize that she is hard to lead, so they didn't bring her out. This is the second calf, and one which has shown in a class with others much older than itself, and was successful in winning second prize. She is a very smooth, nice round calf, and should develop into an extremely good cow. Of course in judging calves you have to be a good deal of a prophet; you don't know how they are going to develop.

Just bring that other herd out, please. These cattle come from Yolo county, the county which has won the prize for the best exhibit in the pavilion. Now, you see the same character of animal here which we had before, almost. A little bit more roughness, you see, about his shoulder; not so well covered there; more depression back of his shoulder, and more prominence here, and he has more loose, soft fat meat about him, too much of these bones which can't be eaten, and when you are paying a certain price per pound for an animal, you have to consider how much bone there is going to be on him, as well as the amount of meat; but there is a very nice, stylish individual.

**SUB-IRRIGATION.**—Dinuba Tribune: E. O. Reese last fall set out ten acres of grape cuttings and ten acres of rooted vines on his place, 1½ mile northeast of Dinuba. Only two acres of the young vineyard have been watered, the balance being sub-irrigated, and 95% of the vines are making thrifty growth. Mr. Reese uses water sparingly. His land, being sub-irrigated, of course requires less water than it would without this advantage; but he believes that too much irrigation is more injurious than too little.

**SWEET POTATOES.**—Modesto Herald: With sweet potatoes commanding \$1.50 per hundred pounds in carload lots, a yield of 180 sacks to the acre means a very profitable industry. J. M. Fagundes reports this yield on land 1 mile north of Turlock, and this the initial planting. He has fifteen acres in sweets. There are four other parties on adjoining land who are also raising sweet potatoes, and the yield on these tracts will equal if not exceed the yield on the Fagundes tract.

**BIG RANCH SOLD.**—Porterville Messenger: C. T. Brown has sold his 4500-acre ranch in Frazier valley to Gill Bros. for \$17,000.

## Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH  
Price, \$2 Postpaid.

PACIFIC RURAL PRESS,  
330 MARKET ST., SAN FRANCISCO.

## Breeders' Directory.

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS.** Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Oal.

**PETER SAKS & SON,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle. Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINA FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUDCO HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Oal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**C. B. CARRINGTON** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$90.00 per 1000. Send for folder giving prize record from 1899 to Sept. 1903.

**WHITE LEGHORNS,** either sex, from \$1.00 up. Eggs \$1.00 per 15. Incubator lots, 55 cents per dozen. Mrs. G. S. Bolce, Salinas or Natividad, Monterey Co., Cal.

**SANTA TERESA POULTRY FARM,** Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP AND GOATS.

**FOR SALE**—Two fine thoroughbred Southdown yearling rams. Won 1st and 2nd premiums State Fair 1903. Perkins & Co., 1028 J St., Sacramento, Cal.

**G. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n't'rs of Pacific Incubator and Brooder. Send for Catalogue.

## FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock. Phone RED 123. J. W. McCORD, Hanford, Cal.

## ALMOND HULLERS

—For Sale by—  
A. O. RIX, Irvington, Alameda Co., Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at OHOWCHILLA STOCK FARM.

Address ... ISAAC BIRD, Merced, Cal.

## The Thoroughbred BERKSHIRE BOAR, Highelore Oxford 63442.

Sired by Highelore Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds. Young sows and boars of breeding age from this fine boar and out of choice sows for sale by OHAS. C. PERKINS, Sacramento, Cal.

## Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT &amp; CO., Indiana and 24th Sts., San Francisco

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France, growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in ear lots we can make very low prices.

PAID UP CAPITAL, \$200,000

FANCHER CREEK NURSERIES Inc.

GEO. C. ROEDING, PRESIDENT AND MANAGER

P. O. BOX 18

FRESNO, CAL.



## PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased to send you one.

SAN DIMAS CITRUS NURSERIES

San Dimas, Cal.



## TOULOUSE & DELORIEUX,

620-622 COMMERCIAL ST.

SAN FRANCISCO, CAL.

## OLIVE MILLS.

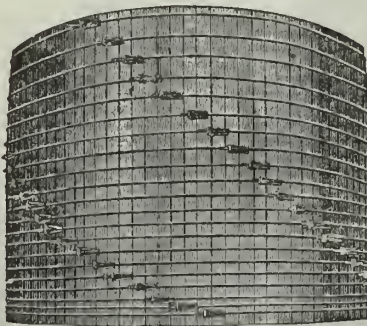
WINE MACHINERY.

THE LATEST AND BEST.

SEND FOR CATALOGUE.

## OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

## The Excelsior Redwood Co.

SOLE MANUFACTURERS,

Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.

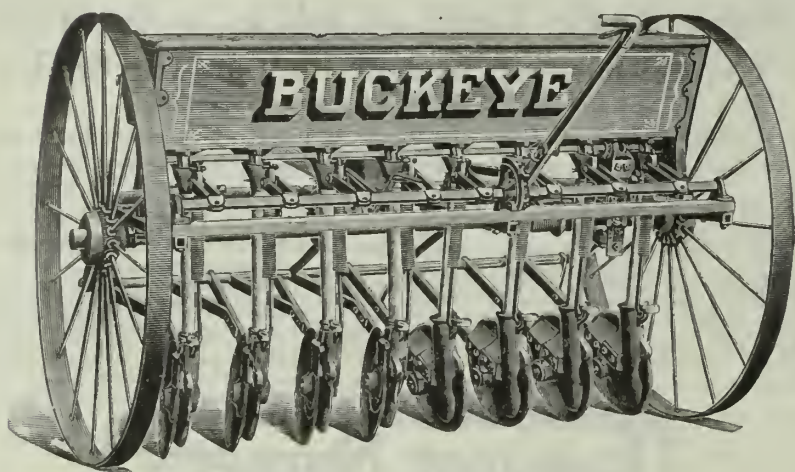
## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

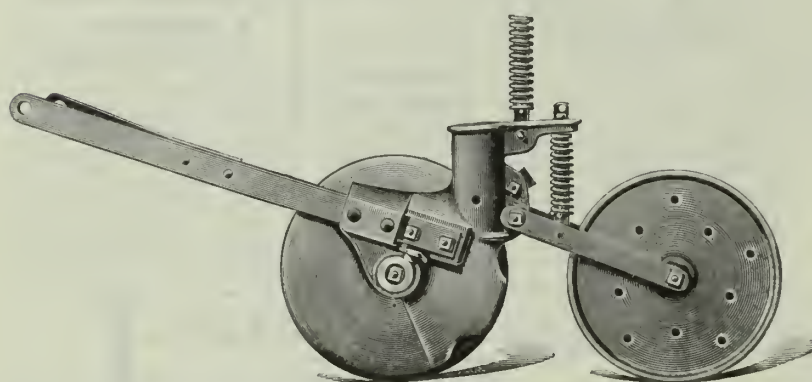


# BUCKEYE

STEEL FRAME HOE, SHOE AND DISC



STEEL FRAME DISC DRILL.



Cut showing Buckeye Disc and Boot. It will not choke up in wet ground between the disc and boot.

## GRAIN DRILLS

Have all the latest improvements in seeding machinery.

Frames are made of square steel tubing, which actual tests have proved to be the strongest, most rigid and best material obtainable for the purpose. The feed cups are the double-run principle for sowing large and small grain with uniform accuracy. This is a positive force feed and will handle all kinds of grain successfully.

MAKE YOUR CONTRACTS EARLY.

Deere Implement Co.  
SAN FRANCISCO.

(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

## Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

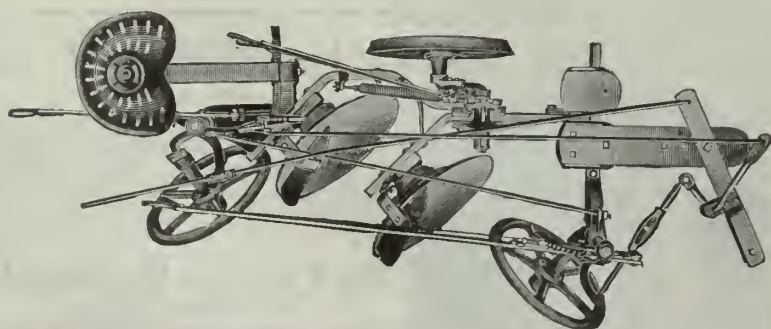
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

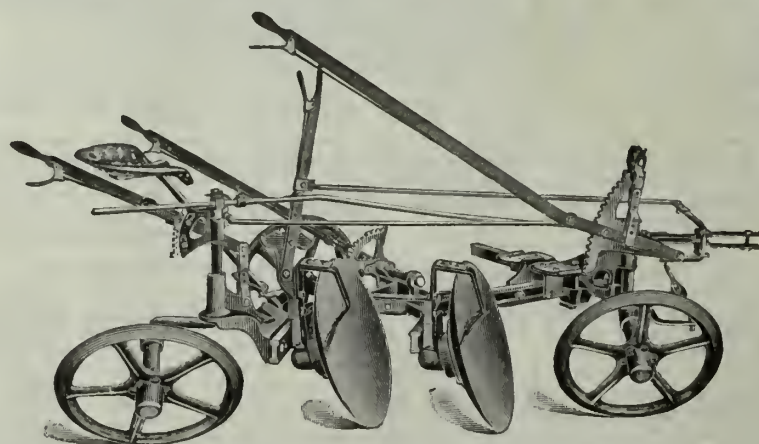
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.

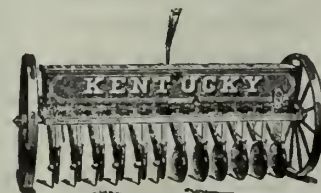


LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



LIBRARY

to be used only from the Library

# THE PACIFIC RURAL PRESS

State Library

## CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 14.

SAN FRANCISCO, SATURDAY, OCTOBER 3, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### California Traction Engines in Central America.

California development is very systematical which betokens permanency and self-dependence. The growth in agriculture and mining is ministered to development in some unique lines of manufacture, which not only aid our own producers in their work, but, while suiting their requirements, are also suitable to those operating under similar conditions in other parts of the world. This is true of our combined harvesters, which are going to other parts of the world where a uniformly dry harvest season favors the use of these immense machines. Our machines for cheap handling of fruit products are also in steady export demand, and other such facts have been noted from time to time in our columns. Perhaps the export demand for California traction engines is as interesting as anything in this line. They are drawing harvesters and plows of surprising width of furrows in several parts of the world, and are likely to become much more widely known. California traction engines are, however, serving other than agricultural purposes and common transportation purposes. They have become an agency of war in Central America, and when one thinks how prone that part of the world is to war, the demand in this line seems capable of a definite expansion. The subject is suggested by the picture upon this page which represents the foreparts of a considerable part of a train which was recently used in a Central America military campaign.

The Cia de Transportes de Matagalta Ltda. Co. of Nicaragua, C. A., purchased the traction engine and cars shown in the engraving from the Best Mfg. Co. of San Francisco for use in some Nicaragua concessions granted to the company by the Nicaraguan government in consideration of having free use of the outfit in case of war. The machine was used in a late war by the public to carry 200 soldiers, six cannons, and carriages and ammunition, and also ammunition and guns for 1000 additional troops. The distance covered was 90 miles, through a very heavily timbered country and a rough mountain range; the stumps left on the ground in some places were from 8 to 16 inches high, over and through which the outfit had to climb. Under these hard conditions the distance was covered in less than forty-eight hours without a break, greatly to the satisfaction of the Nicaraguan purchasers and the



A California-Made Best Traction Engine Used for Military Purposes in Central America.

government authorities, the rough trip being a good testimonial to the enduring qualities of the Best traction engine.

There have been two similar outfits sold to the Russian-Chinese Bank at St. Petersburg, Russia, and are now being used in Siberia, after a 500-mile trip through an unbroken country by their own power. The engine shown in the illustration is 110 horse power and the carrying capacity of each car is sixteen tons.

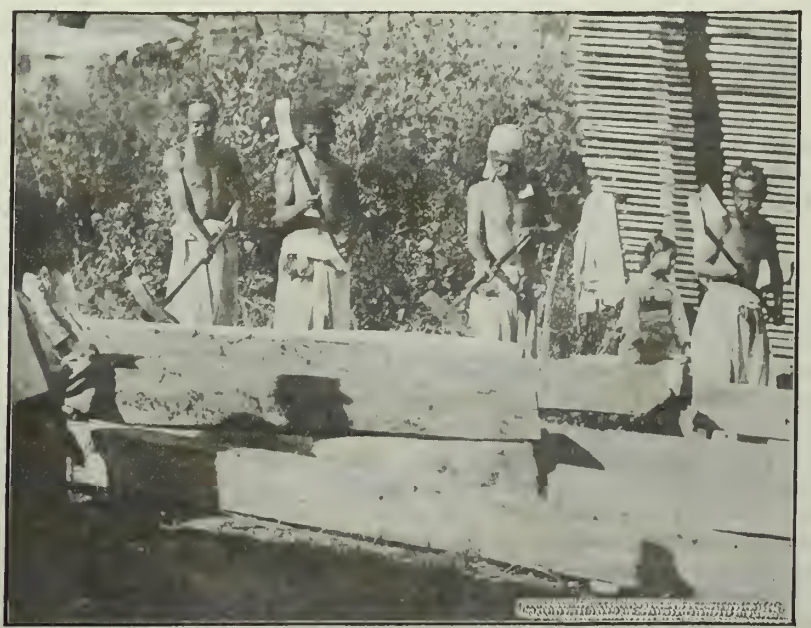
### Cow and Hand Power in Korea.

Quite in contrast with the use of the best California traction engines for transportation in some of the more enlightened parts of the world, are the exhibits of primeval methods of transportation and lumbering in other parts which are still out of the light of the age. Although Korea is now being

rapidly opened to civilization and though a building of Caucasian carpentry stands on one side, there is passing this very point a train of cows carrying merchandise to some interior point. A recent visitor says that nearly all of the packing is done on these animals, for which purpose they answer very satisfactorily to the natives who load and drive them. It is not uncommon to see 200 cows in line on the trail bearing various burdens of things intended to use in the mines and elsewhere. Another picture represents native carpenters squaring timbers with their clumsy adz, in the use of which, however, they are expert. This shows that they need American saw mills as much as they need proper motive power and conveyances. There will, however, be one loss when all the world becomes alike in the use of the best agencies—much of the picturesque will go out of it and we will have to seek other means for the entertainment of our readers.



Cows Packing Merchandise in the Mountains of Korea.



Sawmill Wanted—Native Carpenters Hewing Timbers, Korea.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.  
Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. .... Publishers

E. J. WICKSON. .... Horticultural Editor

San Francisco, October 3, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—A California-Made Best Traction Engine Used for Military Purposes in Central America; Cows Packing Merchandise in the Mountains of Korea; Sawmill Wanted—Native Carpenters Hewing Timbers, Korea, 200.  
EDITORIAL.—California Traction Engines in Central America; Cow and Hand Power in Korea, 209. The Week, 209.  
QUERIES AND REPLIES.—Growing Vetch Seed; A Girdling Larva; Salt and Fruit Trees; Buckwheat Growing, 210. Plants for Wet Lands; Crab Grass; Marshall's Red; Vineyards and Fig Orchards; Crater Blight, Not Pear Blight; Application of Night Soil, 211.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Sept. 25, 1903; Rainfall and Temperature, 211.  
THE POULTRY YARD.—State Fair Poultry Awards, 212.  
SHEEP AND WOOL.—Angora Breeders' Association Meeting, 212.  
CEREAL CROPS.—Too Much Macaroni Wheat, 212.  
THE IRRIGATOR.—Practical Results of Irrigation, 213. The Irrigated Colonies of the Salvation Army; A Significant Demonstration, 214.  
HORTICULTURE.—Over-Pruning of Apple Trees, 214. Large Reward for Cure for Walnut Disease, 222.  
AGRICULTURAL REVIEW.—215.  
THE HOME CIRCLE.—When Nanette Bakes; The True Ownership; Wilda's Choice; Vocabulary of the Average Man; Practical Instruction for Girls; Chance to Enjoy Themselves; Domestic Hints, 217.  
THE MARKETS.—Produce Market; Fruit Markets, 218.  
THE VETERINARIAN.—Anthrax in Inyo County, 220.  
THE GARDEN.—Gardening in the Sierras, 221.  
FRUIT MARKETING.—The Currant Crop at Patras, Greece, 222.  
FORESTRY.—Strange Facts About the Eucalyptus, 223.

## The Week.

The rains have begun at the south, which is not the way to begin in earnest for the whole State, nor was the water wet enough to do much injury except for the beans, which it stained, and the hay which was left out too late in the year. The warning ought to be general to hurry in everything which is exposed, for the skies generally seem set for rain, though the Weather Bureau's attempt to pull the string for showers has not succeeded up to our press hour on Wednesday. Still it is almost sure to come soon and most people are ready for it. A clear September is a great blessing and an October start with fair continuance makes the finest kind of a growing season. We seem to be starting that way this year.

There has been a setback in speculative wheat, the figures dropping 2½ cents per cental here, with about 2 cents in Chicago. In spite of the wavering futures, spot wheat holds as last quoted, but nothing is doing. Four spot charters have been made at from 14s 3d to 15s 9d, while one has come in under a charter of 21s 3d, made some time ago. This is another case in which the early charterer gets a worm. There have been three clearances, taking ten times as much barley as wheat; but this ratio is helped on the wheat side by 34,500 barrels of flour for China. Grains and flour reach a total of \$350,000, while other exports, including a good deal of fruit products, reach a total of over a million value again this week. One steamer took \$270,000 of this value to China. Spot barley is unchanged, but futures are lower and dragging. Oats are unchanged and corn is \$1 lower per ton. Beans are quieter this week and apparently casier, but the situation is strong because of great injuries to the bean crop at the East. Hay receipts are less; most of the supplies are thought to be in store. Mill-feeds are weak and downward. Beef and mutton are unchanged, but rather easy for mutton and large lambs. Hogs are also easier, though packing sizes are wanted and roasting pigs have an innings. Butter is weak and lower, and all except fancy mild cheese is weak. Some Oregon cheese has sold too low, down to 11c. A few fancy fresh eggs are stiff. Eastern and cold storage are steady. There has been a good trade in big fat hens and large young stock: four cars of Eastern have been disposed of. Potatoes are slow and stocks accumulating, including some from Oregon. Onions are quiet and unchanged. Fresh fruits are in decreasing volume and fine lots sell at good prices. Grapes are weak,

however. Dried fruit, except apples, is in good demand and firm. Old prunes are higher; 607,800 pounds have gone out for Germany. New Santa Claras are firmly held and the trade is running freely on outside products. Honey is firm and not active. Walnuts taken at full figures and almonds are firm in sympathy. Hops are stiff, but not much doing. Country sales of wool have been active and details appear in our market Review.

California missed a chance for a fair trial of her irrigated fruits and field crops against similar products from other States at the Ogden irrigation congress. Evidently the offering of three \$500 silver loving cups did not attract much attention in this State, for though some California things were shown, there had evidently been no effort made to secure such collections as other States entered for these awards. The result was that the cup for fruits went to Idaho, that for barley to Montana and that for sugar beets to Utah. We are not objecting to these awards; they were well merited by those who secured them. We should have liked to see California try for them in some adequate way. The Idaho fruit display was magnificent and was a revelation to most visitors. There is a lesson in the experience. These irrigation congresses are now attracting such wide attention from the whole country that California development and promotion agencies should give more attention to them. At El Paso next year something strenuous should be done. Another lesson is that California may expect sharper competition at the St. Louis World's Fair than she has ever encountered hitherto, and the California commission, in addition to its bottled specimens which will probably be incomparable, should save money and effort enough to set forth a grand fresh fruit exhibit in continuous supply next summer. We fear California is becoming disposed to trust too much to her name and fame in this matter; fresh deeds are evidently required to maintain the luster on the old escutcheon. Private producers cannot be expected to make the grand public shows. They must be done by organizations or by State appropriation, for the benefits are not to individuals, but to the commonwealth.

We have received a special report on the investigation of an infectious bee disease by Dr. V. A. Moore and Mr. G. F. White of Cornell University. They report an investigation showing that black brood and foul brood are diseases due to the same organism (*bacillus alvei*). Pickle brood did not, however, show unmistakable connection with the other two, but its specific character was not determined. It seems to be due to a different organism or agency from black brood and foul brood.

Many readers of the PACIFIC RURAL PRESS will feel deep sympathy with Dr. E. W. Hilgard of the State University in the loss of his wife, whose death occurred on Wednesday of this week—the 43rd anniversary of her wedding day. Mrs. Hilgard was a lady of rare excellence and accomplishments, widely known and appreciated, and her departure will be felt as a bereavement throughout the University community. She was a devoted mother and a constant inspiration to her husband in his exacting and important labors which he has carried to such distinguished success. The only earthly light which can shine in a darkened home—the heartfelt sympathy of friends—has been poured in full measure upon the bereaved family.

In our mention of the organization of a new live stock association during the State Fair it was intimated that there would be a great stock show in the metropolis during the coming year and this seems very likely to be realized. San Francisco is most accessible both from the coast sections and the interior valleys as well. It is an enterprise which all should help both with interest and effort.

A Washington report says that the Hungarian State Agricultural Department estimates requirements of wheat importing countries for 1903 at 1,327,000 tons above the surplus of the exporting countries of the world.

Elwood Meade, Chief of Irrigation of the Department of Agriculture, and Professor of Irrigation in the University of California, returned to Washington from a tour of investigation in Italy and other European countries. Mr. Meade will later make a report

upon his observations of irrigation systems abroad. He says the methods of distributing water here are as good as those anywhere, but that the United States might take lessons from the superior construction of the canals abroad.

## QUERIES AND REPLIES.

### Growing Vetch Seed.

TO THE EDITOR:—Will you kindly advise the writer through your valuable paper the best time in the year to sow common vetch seed to cut for seed? How many pounds per acre should I sow? Should I sow any other grain with the vetch to hold it up? The land is dry and gravelly where I intend sowing vetch. —R. K. P., San Francisco.

For a seed crop we should break up the ground deeply as soon as moist enough, cross plow shallow in February and put in about thirty pounds of seed per acre in furrows about 2½ feet apart, covering about 2 inches. Cultivate well as late as you can without injuring the plants, clean the rows and let the plants spread as they will. Such a course ought to give you deep-rooted, strong plants to make a large yield of plump seed. For seed purposes we should not plant any grain with the vetches. In harvesting, run under the rows with bean cutter and gather up the plants with horse rake to a smooth, hard spot, where they can be allowed to dry enough for threshing, and any seed shelled in the drying can be swept up.

### A Girdling Larva.

TO THE EDITOR:—I send with this by mail a small box containing a worm that has appeared this season among our roses. I enclose the plant to show his method of destruction. If you can name him and suggest a remedy we will be most grateful. We have tried lime, which is very effective with the eel worm, and it may check this fellow, but I am doubtful, as a good dose was around the plant enclosed, and still the worm lives. —AMATEUR, Fruitvale.

The worm which seems to be girdling your young rose bushes near the surface of the ground is apparently the larva of a beetle, but we are unable to determine it accurately in the condition in which it arrived. An application of soapsuds in which kerosene oil has been thoroughly mixed would probably destroy the insect. Of course, you must be careful not to use too much kerosene for fear of destroying the plant also. It is very possible that a little soot from the stove pipe scattered on the ground and washed down with the hose would be very distasteful to it.

### Salt and Fruit Trees.

TO THE EDITOR:—Is it advised to salt peach trees? Is it done in California? We have seen it well among Eastern States if done at all. I have seen pear trees have been salted to an advantage in the East, and have been the means of saving them from dying. Would the same effect be produced on peach trees? —READER, Los Angeles.

Salt is not a plant food except for certain marine plants like asparagus, which seem sometimes to be benefited by its application. It is possible that the application of a certain amount of salt may be desirable in its effects upon the soil, but one has to be exceedingly careful, because it is very easy to kill plants with salt. As a general rule, the application of salt to fruit trees would be more disastrous than salutary, and the effort to supply it is not usually worth the trouble.

### Buckwheat Growing.

TO THE EDITOR:—Will buckwheat grow in this vicinity, and, if so, at what time of the year should I plant it, and how, whether broadcast or drilled? Also, what kind to plant, if any special kind? I want to have it for "bee pasture" while in flower. —READER, Alameda county.

Buckwheat will grow during our rainy season in some situations where sharp frosts are not likely to be encountered. On low, moist lands, however, where frost is frequent, buckwheat must be grown in California, as in the East, after the spring frosts are over. There is a variety of buckwheat called the Tartarian, which you can probably get from San Francisco seedsmen, which is good for bee pasturage because it has a long season of continuous blooming. This fact makes it less valuable for seed purposes, because it ripens continuously. The seed is usually broadcasted thinly. We suppose you know that buckwheat makes cheap, dark-colored honey.



Plants for Wet Lands.

TO THE EDITOR:—I have some meadow land—peat land—that is covered with water all winter. Can you inform me of some tame grass that will grow and produce fine hay on this land year after year? This land has the natural grass on it now and produces quite a lot of hay.

I have some land that is covered with water all winter—adobe land—but gets dry during July, August and September. Can you tell me of some good tame grass that will make a lasting grass for pasture or hay on this land that will do well?

I have some land—red land and adobe—that is damp (quite wet all winter) and dry during July, August and September. Can you tell me of some good tame grass that will make good pasture or hay on this land?

A great deal of this land I can irrigate. It is in the mountains. We have snow from November to April at times. We have frost from October to May.

How much do you plant per acre, and what time of year is the best to plant? What machinery is considered the best to prepare sod land for planting seeds?—T. D. B., Shasta county.

We are not sure of any grass which will meet the requirements which you make in your first question—that is, which will endure covering with water all winter. The grass which will endure most overflow and produce good pasturage is the English rye grass. It is not a very good hay grass, but will do fairly well if cut before it becomes stemmy. We doubt, however, if, on the whole, you can do better with this land than to encourage the growth of the natural grasses which you say produce quite a lot of hay. As for your heavier land that is covered all winter, should you not use it satisfactorily for the growth of a summer crop of Indian corn or sorghum? The latter, particularly, can be planted quite late, and that would give you plenty of time to break up the ground and get it in good condition after the water appears in the spring time, and you can get considerable growth of sorghum during the frost-free period, which is with you, as you state, from May to October.

Nothing would be better for your upland situation, which is quite wet during the winter, than the English rye grass before mentioned, because, as the land is fairly retentive, it will keep the plant alive during the period from July to September, and at that time it will start into active growth and give you good fall and winter pasturage. The best time to plant this grass in California valleys is at the beginning of the rainy season, and, if you get in the seed as soon as possible, you ought to secure a good stand before the winter weather comes on. If this is not possible, plant early in the spring as you can get the seed in good condition. You can get the seed from the San Francisco seedsmen, and it is usual to sow about fifty pounds to the acre. There is no machinery for breaking up sod and getting the land into condition for sowing grass better than the old breaking plow and the straight-tooth harrow.

Crab Grass.

TO THE EDITOR:—Will you give the scientific and common name of the plant which I am mailing you under separate cover? This plant grows freely in some of our lawns, in spite of all we can do to keep it out. Will you kindly give me your opinion as to its value as feed for grazing for cattle or sheep if planted extensively?—A. K., San Diego.

The plant is crab grass (*Panicum sanguinale*). This plant has some standing as a forage plant where there is enough moisture in the soil to maintain its growth, but it cannot be expected to do much on dry land. It is exceedingly persistent in lawns because moisture is always present. But it becomes exceedingly stemmy and innutritious if grown without moisture. We should not consider it of much account because, if you have irrigation to spare, you can grow better plants, and if you have no irrigation there will not be enough growth of crab grass to make it worth while, except in moist lands.

Marshall's Red.

TO THE EDITOR:—I send you an apple for naming. The trees were bought at Niles six or seven years ago. The tree is a rather strong grower, branching similar to a Smith Cider, with very broad leaves, and seems to be a regular bearer.—GROWER, San Pablo.

The variety is Marshall's Red, a California apple which originated in Napa county, and is proving very satisfactory for an early ripening fruit.

Vineyards and Fig Orchards.

TO THE EDITOR:—Is raisin-grape growing a staple industry? Is it not subject to extreme fluctuations? At various times statements have been made that a full-bearing raisin vineyard, after the fifth year, properly attended to and situated in a favorable locality, under normal conditions, is worth about \$100 per acre net. Is this statement a reasonable one, and have the facts in the past borne it out? The statement is also made that the new variety of fig is a grand success, and that a fig orchard in full bearing is normally worth between \$300 and \$500 per acre per annum. It is also stated that wine grapes, under reasonably favorable conditions, are worth about from \$40 to \$50 per acre net. I am also informed that the pest which has done so much damage to grapes in France, and I also believe in this country, has been unable to obtain a foothold in the raisin district. If it is not asking too much I would like to have your opinion regarding the above statements, and also your opinion as to the advisability of an outsider making an investment in the district, provided he has a perfectly reliable man to look after his place for him.—INQUIRER, Minnesota.

Raisin growing is a staple and stable industry of California. The product is worth about \$3,000,000 a year. California raisins have practically excluded European raisins from American markets, and exports are now being made from California to the northern countries of Europe, where a direct issue with the south European raisins will be made. During the last five years, when growers have combined for the purpose of regulating prices, the business has been profitable and fluctuations not extreme. If they hold together in future as they have in the past five years, it seems reasonable to expect that prices will be regularly profitable. The estimate of \$100 per acre for bearing vineyard in good condition and on good soil is not excessive, and the estimated product of wine grapes at \$40 to \$50 per acre was warranted by prices which were realized last year, but with this year's scale of prices the income would be considerably less. There has been recently much more fluctuation in the price of wine grapes than in the price of raisins. There has been a very considerable increase in the crop of California vineyards recently, and the outlook for prices is not altogether clear. The statement that the phylloxera has not obtained a foothold in the raisin region is not true. In a part of the region it has established itself.

In the matter of figs, the estimate of \$300 to \$500 valuation per acre may be true at present, but the acreage of bearing orchard of the particular kind of drying fig is exceedingly small. When the much larger plantations which have recently been made come into bearing it is hardly reasonable to expect that such valuation will continue, but still there is no reason to doubt that in good localities for fig bearing and drying the business will be profitable, and the output will be in competition with the Smyrna product of all the markets of the world.

As for absentee ownership of fruit properties in California, our impression is not strongly in favor of it. There are notable exceptions, it is true, but, as a rule, it is necessary in California fruit growing, as in other producing enterprises the world over, that the eye of the owner should be upon the enterprise.

Crater Blight, Not Pear Blight.

TO THE EDITOR:—I am just expressing you a sample of diseased pear wood. I want your answer to this question: Is this the pear blight that is working such havoc in the San Joaquin valley? I want your answer as soon as possible. I am going to examine the whole orchard, and will cut it out, being familiar with articles on this subject appearing in your paper. So far I have discovered only a few affected trees.—PEAR GROWER, Yuba county.

The trouble is not the true pear blight, but rather a blight which is called "crater blight," the organism causing which having not yet been determined. It is a much less serious trouble, because it spreads much less rapidly, and does not interfere with the growth of new wood from healthy parts below. Your specimens show this, and when diseased parts are cut out cleanly the progress of the trouble is very slow, and the tree may remain for a long time satisfactory and productive. If you have removed all that you can see on the smaller branches you have done well. There are outcroppings of the disease on the larger branches and sometimes on the trunk, but these are generally small in area, as the trouble spreads slowly in the older bark and can be safely disregarded provided you can check the spread of the trouble in the newer wood.

Application of Night Soil.

TO THE EDITOR:—My orchards are planted with beds of flowers for city market, and, as I must empty a vault, I wish to know if I can dig it without injuring either trees or flowers, particularly trees, as they do not belong to me. I dig very deeply, and it would of necessity come in contact with some tree roots.—READER, San Mateo county.

There is no trouble about making applications of the material of which you speak to your orchard land providing you are careful to distribute it well. It can be safely dug deeply into the soil, but do not allow much to accumulate in a place.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending September 28, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

SACRAMENTO VALLEY.

The weather during the week was warm and generally clear, with light winds, conditions very favorable for raisin making, fruit drying and ripening late fruits. Nearly all deciduous fruits are gathered, and the early varieties have been secured or shipped. Grape picking is progressing rapidly and heavy shipments continue. Wineries are running at their full capacity. Prunes are of superior quality, but the yield is light in some sections. Citrus fruits are in excellent condition and give promise of ripening early. Hay baling is completed; the crop is reported slightly in excess of last season's and the hops are of good quality. The hay and grain crops are all secured. Stock are in good condition. Seeding summer-fallowed land will commence after the first rain.

COAST AND BAY SECTIONS.

Warm weather prevailed during the week in the interior and cooler weather with fogs in the coast districts. No damage was done to crops by the light frost of the preceding week. Forest fires continue in Sonoma county and there has been considerable loss of valuable timber. Grapes and late fruits ripened rapidly and harvest progressed satisfactorily. Fruit drying continues. In some sections the deciduous fruit crop is nearly all secured. Grapes in Sonoma county are said to have a high percentage of sugar. Apples of excellent quality are being shipped from Peachland. Beans are yielding an excellent crop in Monterey county. Hop picking is nearly completed in San Benito county. Corn and alfalfa are doing well. Stock are in good condition.

SAN JOAQUIN VALLEY.

Clear, warm weather, favorable for harvesting and drying the prune and raisin crops, prevailed during the past week. Good progress has been made gathering both the prune and raisin crops, and the larger portion of each is now on the trays. In many vineyards the first crop is now in the sweat boxes. The raisin crop will be somewhat lighter than was expected, but of excellent quality. The second crop will be light. Packing houses will commence operations next week. Wineries are handling large quantities of Zinfandels and Muscats. Large quantities of grapes are being marketed. Prunes will be of good size and fine quality. The olive crop is promising. Egyptian corn and sorghum promise good crops. Citrus fruits are in excellent condition; the crop will be large and the harvest early.

SOUTHERN CALIFORNIA.

The weather during the week was partly cloudy, with fogs along the coast. Light rain fell in San Diego county on the 22d, and in Los Angeles and vicinity on the 27th. Raisin making is progressing in San Diego county and fruit drying continues in all sections. Large quantities of grapes are going to the wineries. Oranges are in good condition and give indications of a large yield. Walnut picking has commenced in Orange county. Bean harvest is progressing; some estimates place the crop above that of last year, while others show a shortage. Sugar beet harvest is nearly completed. Corn and potatoes are yielding fair crops.

LOS ANGELES SUMMARY.—Rain caused considerable damage to hay and slight damage to grain; beans and grapes will be largely increased by more rain. Thrashing of a good crop of beans delayed.

EUREKA SUMMARY.—Cloudy, with considerable fog during the week; crop made slow advancement. Feed is generally reported short. Streams are low. Apple picking is in progress; condition as previously reported.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, September 30, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the Week.	Minimum Temperature for the Week.
Eureka.....	.04	.82	.39	1.54	60	50
Red Bluff.....	.00	.00	.60	.60	98	52
Sacramento.....	.00	.00	.31	.31	98	48
San Francisco.....	.00	.00	.33	.33	66	46
Fresno.....	.00	.00	.20	.20	96	48
Independence.....	.00	.00	.30	.30	86	52
San Luis Obispo.....	.00	.00	.34	.34	84	58
Los Angeles.....	.43	.43	.12	.12	84	58
San Diego.....	.01	.01	.92	.15	76	62
Yuma.....	.01	.05	.11	.66	96	66



## THE POULTRY YARD.

## State Fair Poultry Awards.

Light Brahmas: Mrs. F. H. Snow, 1st, 2nd, 3rd, hens and cockerels.

Dark Brahmas: Mrs. F. H. Snow, 1st, 2nd, 3rd, hens, cockerels, pullets and breeders' pens.

Buff Cochins: D. A. Robertson, 1st, hens, cockerels, pullets; Santa Teresa Poultry Farm, 2nd; Mrs. T. B. Seilcken, 3rd.

Buff Cochins: Breeders' pens, Santa Teresa Poultry Farm, 1st; D. A. Robertson, 2nd, 3rd.

White Cochins: T. B. Seilcken, 1st, 2nd, 3rd.

Black Langshans: T. B. Seilcken, 1st.

Barred Plymouth Rocks: E. J. Boden, 1st, hens, pullets, breeders' pen; 2nd, hens, cockerels, pullets; 3rd, cockerels; H. R. Campbell, 1st, cockerels; 2nd, breeders' pens; 3rd, hens, pullets, breeders' pens.

White Plymouth Rocks: R. A. Richardson, 1st, cocks, hens; S. A. Hendren, 1st, cockerels, pullets, breeders' pens; Coffey Bros., 2nd, cocks, hens; S. A. Hendren, 2nd, 3rd, cockerels, pullets.

Buff Plymouth Rocks: Briggs Poultry Farm, 1st, cocks; 2nd, breeders' pens; Percy Ward, 1st, 2nd, 3rd, hens; 1st, breeders' pens.

White Wyandottes: Santa Teresa Poultry Farm, 1st, 2nd, 3rd, cocks; 1st, 2nd, cockerels, pullets; Briggs Poultry Farm, 1st, hens, pullets, breeders' pens; T. B. Seilcken, 2nd, hens; E. F. Granger, 3rd, cockerels; R. A. Richardson, 3rd, pullets.

Mottled Javas: Mrs. F. H. Snow, 1st, 2nd, 3rd, hens.

Brown Leghorns: Williams Bros., 1st, 2nd, cocks, hens, cockerels, pullets, breeders' pen; Coffey Bros., 3rd, hens, cockerels, pullets, breeders' pen.

S. C. White Leghorns: Williams Bros. & Ward, 1st, cocks, breeders' pen; 2nd, hens, cockerels, pullets; C. B. Carrington, 1st, hens, cockerels; 2nd, cocks; Santa Teresa Poultry Farm, 1st, pullets; 2nd, breeders' pen; 3rd, cocks; D. A. Robertson, 3rd, cockerels, pullets, hens, breeders' pen.

Buff Leghorns: Mrs. T. B. Seilcken, 1st, 2nd, 3rd, hens.

Rosecomb White Leghorns: Mrs. T. B. Seilcken, 1st, cocks, hens, breeders' pen.

Black Minorcas: Santa Teresa Poultry Farm, 1st, 3d, cocks; 1st, pullets; W. S. Child, 1st, hens, cockerels, breeders' pen; 2nd, cocks, hens, cockerels, pullets, breeders' pen; 3rd, hens, cockerels, breeders' pen.

White Minorcas: Mrs. T. B. Seilcken, 1st, hens, breeders' pen; 2nd, pullets; E. F. Granger, 1st, cockerels; S. A. Hendren, 1st, 3rd, pullets; 2nd, cockerels.

White Crested Black Polish: Briggs Poultry Farm, 1st, cocks, hens; Mrs. F. H. Snow, 2nd, cocks; 2nd, 3rd, hens.

Bearded Silver Polish: Mrs. F. H. Snow won all premiums.

Silver Spangled Hamburgs: Briggs Poultry Farm, 1st, 2nd, 3rd, cocks, hens, cockerels, breeders' pen.

French Houdans: Mrs. C. W. Detering, 1st, 2nd, 3rd.

Silver Hamburgs: Mrs. F. H. Snow, 1st, 2nd, 3rd.

Black Breasted Red Garrets: Coffey Bros., 1st, cocks; 2nd, pullets; 1st, hens; Mrs. F. H. Snow, 1st, cockerels, pullets, breeders' pen; 2nd, cocks, cockerels; Percy Ward, 3rd, cocks.

Silver Duckwing Game Bantams: Mrs. F. H. Snow, 1st, 2nd, 3rd, cocks, hens.

Cornish Indian Game: Percy Ward, 1st, 2nd, cocks, hens, cockerels, pullets, breeders' pen; Mrs. F. H. Snow, 3rd.

White Indian Game: Percy Ward, 1st, pullets.

## BANTAMS OTHER THAN GAME.

Golden Seabright: Mrs. F. H. Snow, 1st, 2nd, 3rd.

Silver Seabright: Mrs. F. H. Snow, 1st, 2nd, 3rd.

Buff Cochins: Mrs. T. B. Seilcken, 1st, hens; Mrs. F. H. Snow, all other awards.

White Cochins: G. B. Nugent, 1st, cocks, hens; 2nd, cocks, cockerels, pullets; 3rd, hens; Santa Teresa Poultry Farm, 1st, cockerels, breeders' pen; 2nd, hens, breeders' pen; 3rd, cocks, cockerels; Mrs. F. H. Snow, 3rd, pullets.

Black Cochins: G. B. Nugent, 1st, cocks, hens, cockerels, pullets; 2nd, hens, cockerels, pullets; 3rd, pullets, breeders' pen; Mrs. T. B. Seilcken, 1st, breeders' pen; 3rd, hens; Mrs. F. H. Snow, 2nd, cocks.

Buff Orpingtons: W. S. Sullivan, 1st, cocks, breeders' pen; 2nd, 3rd, pullets; Briggs Poultry Farm, 1st, hens; G. B. Miller, 1st, cockerels, pullets; 2nd, hens, cockerels, breeders' pen; 3rd, hens, cockerels, breeders' pen.

Partridge Plymouth Rocks: Mrs. T. B. Seilcken, 1st, 2nd, hens.

Rosecomb R. I. Reds: G. B. Nugent, 1st, cocks, hens, pullets, breeders' pen.

## TURKEYS.

Turkeys: T. W. Wakefield, 1st, 2nd, males; Mrs. T. B. Seilcken, 1st, 2nd, 3rd, females; 3rd, males.

## DUCKS.

Pekin Ducks: Best pair, open, Fair Oaks Duck Farm, 1st, 2nd; Mrs. T. B. Seilcken, 3rd.

Rouen Ducks: Open, Fair Oaks Duck Farm, 1st,

2nd; under six months, Fair Oaks Duck Farm, 1st, 3rd.

Cayugas: Open, Fair Oaks Duck Farm, 1st, 2nd.

Indian Runner Ducks: Fair Oaks Duck Farm, 1st, 2nd.

Colored Muscovy: W. S. Childs, 1st; Fair Oaks Duck Farm, 2nd; Colma Duck Farm, 3rd; under six months, Fair Oaks Duck Farm, 1st; Colma Duck Farm, 2nd, 3rd.

Gray Call Duck: Fair Oaks Duck Farm, 1st, 2nd.

Toulouse Geese: Mrs. T. B. Seilcken, 1st, 2nd; J. W. Wakefield, 3rd.

Emden Geese: Mrs. T. B. Seilcken, 1st, 2nd, 3rd.

Pearl Guineas: Mrs. T. B. Seilcken, 1st, 2nd, 3rd.

Capons: R. A. Richardson, five White Wyandottes, 1st; five White Plymouth Rocks, 2nd.

## PIGEONS.

Checkered: Coffey Bros., 1st, 2nd, 3rd (best pair). Silver Runts: W. S. Child, best pair, 1st; Coffey Bros., 2nd, 3rd.

Red Runts: W. S. Child, best pair, 1st.

Red Tumblers: Percy Ward, best pair, 1st.

White Dutchers: Williams Bros., best pair, 1st.

White Crested Fantails: Coffey Bros., 1st, 2nd.

## SWEETSTAKES AND SPECIAL PRIZES.

Best display of any single variety: Williams Bros., 1st; Percy Ward, 2nd; D. A. Robertson, 3rd.

Best display of American classes: E. J. Boden, 1st; Santa Teresa Poultry Farm, 2nd; S. A. Henderson, 3rd.

Best display, Asiatic class: D. A. Robertson, 1st; T. B. Seilcken, 2nd; Mrs. F. H. Snow, 3rd.

Best display of Bantams: Mrs. F. H. Snow, 1st; G. B. Nugent, 2nd; Santa Teresa Poultry Farm, 3rd.

Best display of Ducks: Fair Oaks Farm, 1st; Colma Colored Duck Farm, 2nd; W. S. Child, 3rd.

Largest and best display of Fowls: Mrs. F. H. Snow, 1st; Mrs. T. B. Seilcken, 2nd; Fair Oaks Duck Farm, 3rd.

Best display of Mediterranean class: Williams Bros., 1st; Mrs. T. B. Seilcken, 2nd; W. S. Child, 3rd.

Best package of eggs: D. A. Robertson, 1st; Coffey Bros., 2nd.

Incubators and poultry supplies: Best shipping coop, Williams Bros.; best display incubators in operation, and best display of brooders, poultry house and poultry supplies, Thompson-Diggs Co.

## SHEEP AND WOOL.

## Angora Breeders' Association Meeting.

Official report prepared for publication in the PACIFIC RURAL PRESS by the Secretary.

The regular meeting of the California Angora Goat Breeders' Association was held in Sacramento on Friday, September 11, 1903, with a good attendance of goat men. President C. P. Bailey called the meeting to order and, after the roll call and the reading of the minutes of the previous meeting, followed a general discussion of the Angora industry during the past year. The first report came from Mr. T. Harlan, and the year's results for his flock were very encouraging and gratifying to all. Mr. Harlan & Son received for their year's clip of mohair, in April, 38 cents. The entire flock sheared an average of 3½ pounds. Mr. Harlan also stated that they had sold their two-year-old wethers for mutton at \$2.00 per head and reserved the skins, which are worth \$1.00 each. He further reported that they had raised 96% of kids this season and that the flock is in good health and good condition.

Mr. W. W. Wright stated that his flock had sheared an average of four pounds, kids included. Owing to stormy weather at the kidding season, Mr. Wright stated that his percentage of kids raised was less than usual. He, however, succeeded in raising 90%. His wethers he sold to the butcher and realized \$4.00 per head for them. Mr. Wright concluded his remarks by stating that one of his bucks bred by "Pasha" had sheared sixteen pounds for a year's clip.

Mr. F. H. Fowler gave a short statement of his flock. He has been able to retail all of his mutton and receives 12½ cents per pound, the average two-year-old wether dressing about forty pounds. Owing to lack of sheds and very stormy weather, Mr. Fowler's percentage of kids was low.

PRESIDENT BAILEY'S ADDRESS.—President C. P. Bailey then addressed the meeting, giving a general summary of the Angora industry for the year, briefly as follows: "The results of the past year have been very gratifying to goat breeders in general, and especially to those who have high-grade flocks. A lively interest has been taken in the breeding of pure bred stock, resulting in a very noticeable increase in demand for fine bucks. Goat men in general have learned that high breeding always pays in the making of an Angora.

"The mohair market has been good this season. In the early spring prices started at from 30 to 35 cents for good year's staple. Later the prices advanced, owing to an increased demand for mohair in the manufacture of hats and dress goods, and we received 42 cents for our entire Nevada clip. Some

breeders who sent in selected kid fleeces realized as high as 55 cents per pound.

"In June and July there was an unusually good demand for short staple mohair and it quickly advanced in price 20% or 25%, but this was only temporary and now the main demand is for long, fine hair.

"The industry is growing and the demand for stock goats is good. Many breeders who had a surplus of does have found a ready demand for them at good prices. Angora wethers for mutton are constantly growing in popularity. San Francisco offers a ready market for them in large or small lots. We receive from 5 to 6 cents wholesale for our wethers and reserve the skins, which are worth from \$1.00 to \$1.50 each. Large fat wethers will dress from fifty to fifty-five pounds.

"California offers a vast and cheap range for the goat and the Angora is easily acclimated and seems to do equally well in all parts of the State. The mohair market has settled into a steady demand at good prices and there seems to be no reason why the Angora industry should not continue to grow."

BUSINESS.—The president's statement closed the reports, and the Association next took up business. Mr. F. H. Fowler was elected a member of the Association. Mr. Harlan said that he knew a number of good goat men in the northern part of the State whom he thought would like to join, and the members requested that he ask some of them to come to the next meeting.

The election of officers was next in the line of business, and the ballot resulted in the unanimous reelection of last year's officers, as follows: President, C. P. Bailey; vice-president, T. Harlan; secretary, H. H. Harlan; treasurer, W. W. Wright.

The question of the next meeting was then brought up and it was decided to hold it on the last Friday of the next State Fair.

F. T. BAILEY, Acting Secretary.

San Jose, Sept. 23, 1903.

## CEREAL CROPS.

## Too Much Macaroni Wheat.

Our valley readers who have been restless under the rather too optimistic exaltation of macaroni wheat may quiet down again and do their best toward the improvement of the white wheat type for which California has secured world-wide reputation. It appears by an article in Bradstreet's that the macaroni wheat opportunity has already been more than filled. The statement is that the United States crop of macaroni wheat this year is estimated at 10,000,000 bushels, and Secretary Wilson, of the Agricultural Department, has been quoted as saying that next year the production would probably be 25,000,000 bushels. It will be seen that so far as inducing the production of this variety of wheat is concerned, the macaroni wheat expert of the department, Mr. Carleton, has succeeded wonderfully well. If the progress along the line of inducing the production had been as good, no fault could be found. The claim is made, however, that the millers of the country have something in the way of a white elephant upon their hands. The wheat is harder than the ordinary varieties, it does not make as good flour for ordinary bread purposes, and Mr. Ward Ames, president of the Duluth Board of Trade, takes advanced ground against encouraging the further production of this wheat until some outlet for the existing production is afforded. Mr. Ames, writing to Bradstreet's, quotes a leading Minneapolis concern as saying that the yield of bread from a barrel of flour produced from macaroni wheat is not equal to that made from No. 1 northern wheat. Furthermore, the color of the flour made from macaroni wheat is yellow, and therefore inferior to flour made from No. 1 northern. In addition, the milling cost of the production of this flour is declared to be double that of ordinary flour. He quotes this milling firm as follows: "It is a great mistake to advocate the production of macaroni wheat for the northwest except for a limited area of arid land where macaroni wheat may be raised to advantage. \* \* \* For many years macaroni wheat (its proper name is 'durum wheat') has been obtainable in the Liverpool market, but you will find millers will pay a premium for No. 1 northern wheat in the same market. In deceiving the farmer by telling him macaroni wheat is just as good as No. 1 northern wheat, we are tempting him to turn over his farms to macaroni wheat, even though he is successfully raising No. 1 northern. \* \* \* It would be a calamity if the wheat of the northwest was turned from Flax and Blue Stem to macaroni; and the way it is developing this year, it is becoming such a serious matter that the northwest is in danger of losing its prestige for growing the finest grain that is produced anywhere in the world. We are urging a very conservative course on the part of the government in the question of raising macaroni wheat. We applaud the government for urging this new industry. We would like to see macaroni factories established in America, but wheat suitable for bread purposes is far more important than the development of macaroni, and if the



endeavoring to develop the manufacture of macaroni would destroy the wonderful prestige which the northwest has for its bread-making flour, the northwest would be greatly wronged."

**TRYING TO DISPOSE OF IT.**—If recent press reports are correct, the Department of Agriculture officials have had their attention called to the bad effects of the new departure in wheat production, and Secretary Wilson, we understand, has called the Department of Commerce to his aid for the purpose of finding a foreign outlet for this wheat, which American millers are apparently unable to use profitably in ordinary flour production. The result of his efforts will be awaited with interest, and in the meanwhile it would seem as if the farmers of the northwest would do well, as Mr. Ames suggests, to go slow in the production of this wheat until such time as an American macaroni flour industry is built up or a sufficient foreign market for the grain is found. The danger of admixture of the hard macaroni with our high-grade wheat is also one which cannot be too carefully guarded against.

## THE IRRIGATOR.

### Practical Results of Irrigation.

From an address by HON. JAMES WILSON, Secretary of Agriculture, at the National Irrigation Congress.

The principal object of this congress in the past has been the securing of Government aid in the building of irrigation works, so that the greatest possible area of the arid lands of the West might be brought under cultivation. That object has been attained, but the most optimistic friend of irrigation admits that when all the available sources of water have been put to use, either by public or private works, only a small fraction of the arid lands can be reclaimed. In such a situation there are two things which may be done to increase the area which can be reclaimed: One is to increase the water supply; the other is to make a better use of what we have. The work of the Agricultural Department, as authorized by Congress, is along the latter line. Some of the possibilities along this line which have been suggested by our work up to the present time will be here presented, together with a general statement of what we are doing to realize them.

Up to the present time a large part of the field work of this department has been measuring the quantities of water used in irrigation. Measurements have been made at the heads of canals, at the heads of laterals and at the margins of fields. The great differences between the quantities diverted by some canals and the quantities delivered to farmers by them led to a series of measurements to find out where the water taken from the streams, but not delivered to farmers, went. Such measurements, made up to and including the season of 1901, show that canals on an average lose 6.75% of the water entering them in each mile of their length, some small canals losing in a single mile as high as 64% of the water diverted by them. The general average of the volume lost by canals of their entire length is usually given as one-third of the volume diverted, although our measurements would indicate that it is even greater. The saving of these losses from canals means an increase of a third in the area which can ultimately be reclaimed. The measurements made show that in many canals the larger part of the losses occur in short sections of the canals, and the measurements locate these conditions. Where this is the case, the losses can be stopped by lining the canals or putting in flumes for these short distances where the losses are greatest. The measurements show another fact: The percentage of losses from small canals are much greater than those from large canals. Averages of our measurements show that:

**WHAT THE FIGURES SHOW.**—Canals carrying 100 cubic feet per second or more lose .98% per mile.

Canals carrying from 50 to 100 cubic feet per second lose 2.67% per mile.

Canals carrying from 25 to 50 cubic feet per second lose 5.22% per mile.

Canals carrying less than 25 cubic feet per second lose 7.48% per mile.

These figures show that the percentage of loss from small canals is more than seven times that from large canals. Great savings can, therefore, be made by running water in large canals, rather than in a large number of small ones.

Various experiments have been made in lining ditches to prevent loss, and the department is collecting all available information on this subject. The problem is not to find a means of conveying water without loss, but to find a cheap means of doing this. Where the crops raised will justify the expense, the loss can be stopped; but the expense is too heavy for ordinary crops, or, at least, has been considered so. As the demand for water becomes greater, larger expense will be justified. What is needed is a cheap but effective means of stopping the losses from canals. We are working on this problem. Its solution means, as has been shown, an addition of at least one-third to the area which can be reclaimed.

**LOSSES FROM LATERALS.**—The losses from laterals

have been shown to be nearly if not quite as great as those from ditches. We are studying methods of constructing laterals and of making them more economical carriers of water. All the field agents of the irrigation investigations have been instructed to study the practice of the best farmers in the sections covered by them. The reports from all these agents will be digested and combined and published in the form of a farmers' bulletin. Experiments looking to the same end are being carried on. As with canals, the question of saving the laterals from losses is a question of expense, and what we are looking for is some cheap check on these losses, the saving of which means the addition of another third to the reclaimed area.

Great as are the possibilities of saving by stopping the losses from canals and laterals, they are not so great as the possibilities of saving in use. Our measurements of the quantities actually used by farmers show that some use from five to ten times as much water as others who are raising the same crops under similar conditions, and who secure equally as good if not better returns. There is no way of telling what proportion of farmers use too much water, but the measurements referred to seem to justify the estimate that on an average farmers use twice as much water as is necessary under present methods. If this saving can be made, it means a doubling of the area which can be reclaimed, and that at little expense to any one, since most canals cover much more land than they now supply with water. The department can, of course, do nothing to enforce economy in use. It can only point out the fact that equally good returns from the land now irrigated can be secured with half the water, in the hope that self-interest will induce farmers to use the smaller quantities. One method has, however, been suggested by our investigations. That is to base charges for water on the quantities used, rather than on the acreage irrigated.

**REPORT FROM NEW MEXICO.**—A report from New Mexico shows that farmers who paid according to the quantities they received used 21% less water than others under the same canal who paid a flat rate per acre and used what they wanted. A similar test in Idaho showed that those who paid for the quantities received used 29% less than those paying the acreage rate—an average for the two sections of 25%. A large majority of farmers receive water from ditch companies of some kind, and, wherever they do this, means of inducing economy is available. But most farmers use these excessive quantities of water in the belief that it is necessary to do so. The department, therefore, has a large opportunity for usefulness in showing them the benefits of a more economical use.

The estimate that farmers are using twice as much water as is necessary is based on the measurements previously referred to, which show that some farmers use from five to ten times as much as others. But we are not stopping with this study of what is being done. We are carrying on experiments to get at the actual necessities of different crops under different conditions. To establish the minimum quantities which must be supplied to plants we are making determinations of the quantities of water actually used in the processes of growth. To these quantities must be added enough to supply the losses which are unavoidable under field conditions. These losses will vary with different soils and with different methods of cultivation; but it is believed that an approximate duty can be scientifically determined in this way. We are attacking the same problem from the other direction. Fields similar in other respects are being served with different quantities of water to determine what quantities give the best results. This work has not gone far enough to justify conclusions, but there is every reason to believe that the duty thus established will be much higher than that now secured even by the more economical farmers, thereby making possible still further extension of the area which can be reclaimed.

**METHODS BEING STUDIED.**—We are studying methods of applying water to crops to determine which are the most economical of labor and water, which produces the best results in crops and in the condition of the soil. Our experiments to determine what quantities of water produce the largest returns have already been mentioned.

Experiments in the country and elsewhere have shown that the stage of the growth of the plant at which water is applied has a great deal to do with the crop produced. The experiments show that water applied to grain crops at certain stages tend to make them produce a larger relative quantity of straw than they otherwise would; water applied at other stages tends to increase the production of seed. Water applied to root crops at certain stages makes them run to tops, and at other stages it goes to enlarge the roots. The time of applying water to beets affects their sugar contents, and water applied to potatoes at the wrong time may ruin the crop. All these things are well known in a general way, but they are merely suggestive of the possibilities of a careful, scientific study of the methods and times of applying water to crops.

It may be possible that regulating the time of applying water to crops and the amounts applied will be found to be one of the greatest agents in eliminat-

ing undesirable qualities and perpetuating valuable ones in all our crops raised under irrigation. The possibilities along this line are unlimited, as they are along all lines of agricultural practice.

Farmers can not, as a rule, make these experiments for the improvement of the crops themselves. They are dependent upon the returns from their fields for their living, and must, therefore, stick to methods and to crops which have proved to be successful. Progress in agriculture, both in the arid region and elsewhere, must depend very largely upon the work of the Government in testing new ideas and introducing those which prove beneficial.

**NOT THE WEST ALONE.**—The work just outlined applies to that part of the country where irrigation is necessary to profitable farming. But irrigation is not confined to the West. In the East it is coming to be looked upon in the same light as fertilization or any other means of securing large returns from the soil, and the Agricultural Department is under the same obligation to study irrigation that it is to study any other phase of farming in that region.

The East has one great advantage of the West in irrigation—it has a much larger water supply, owing to the heavier rainfall. The question of a water supply is, therefore, of much less relative importance than it is in the West. In the East the main question is the agricultural one: "Will irrigation pay?" This, of course, includes the study of methods which will make it most profitable. Our work in the East has gone far enough to show that in raising small fruits and vegetables, at least, irrigation pays well. Experiments have been carried on in New Jersey for a number of years. Our reports show that for the years 1898 and 1899 irrigated blackberries yielded about 54% more than unirrigated, the increased yield being worth more than \$93 per acre.

**INCREASED YIELD.**—The increased yield of currants was 43%, worth \$42.60 per acre.

The increased yield of sweet corn was 51.5%; sweet potatoes, 72.6%, worth \$43.68 per acre; Lima beans, 23.8%; watermelons, 40%; and Irish potatoes, 36.4%.

These returns were from experimental plats and from market gardens. In almost every case the increased yields for a single year were enough to pay the entire cost of the plant necessary to furnish water and the operating expenses, leaving the increased yields of future years above operating expenses as profit. Not every year would show equally good returns, as in some years the rainfall is sufficient to produce good crops, but our agents estimate that in every year the yield of some important crop will be greatly increased by the application of water, and in many years all crops will be improved. New Jersey is typical of a large area along the Atlantic coast, and the question of the profitability of irrigating there is considered settled. We have, therefore, gone on to experiment with different methods of distributing and using water to find out how to produce the best results under the varying conditions of soil and crops.

Wisconsin has been chosen as typical of the middle West, and we have carried on co-operative experiments at the agricultural experiment station of that State to determine the value of irrigation in raising general farm crops. These experiments have covered a number of years. The average net profit, after deducting all expenses of operation, including interest on the cost of irrigation works and the depreciation of the plant, has been, for hay, \$20 per acre; corn, \$11 per acre, and potatoes, \$73 per acre. What has been done at Madison can be duplicated anywhere in the middle West, and the possibilities of increasing the products of our farming areas in this way are almost unlimited.

**EXPERIMENTS IN WISCONSIN.**—We are carrying on another series of experiments in Wisconsin which may prove of great value to the sandy areas around the Great Lakes, although this has not been demonstrated. These lands retain so little moisture that all attempts to farm them have failed. The experiments have included the use of both manure and water. Manure alone proved of little use, as there was not water enough to make the plant food available. Water alone produced good results, but the application of both gave the best results. The cost of irrigation on the experimental farm was \$6.70 per acre, and the net gain from irrigation in 1901 was: Potatoes, \$30 per acre; corn, \$1 per acre; watermelons, \$58 per acre; muskmelons, \$45 per acre. From these experiments it seems that with special-crops irrigation of these sandy lands is profitable; but with corn the increase in yield is not enough to justify the expense of securing a water supply. These experiments are being continued, as they have not covered a long enough period nor a wide enough range of crops to justify any conclusions as to the possibility of reclaiming large areas of the barren sandy lands which have been cleared of timber in Minnesota, Wisconsin and Michigan. But the results so far secured seem to point to irrigation as a possible means of reclaiming these lands.

**LESSONS OF THE DROUTH.**—The great drouth of 1901 led to the beginning of experiments in irrigation in Mississippi by the Agricultural Department. The experiments were begun too late in the summer of 1901 to affect the crops of that year, but the crops irrigated in the late summer of 1901 showed the re-



sults of the use of water on the crop of the next season. The most noticeable results were in strawberries. Several varieties were irrigated late in 1901, so that the plants made a large growth in the fall of that year. The spring of 1902 was so wet that irrigation was unnecessary; but the plants irrigated the year before gave yields varying from 151% to 874% above the yields of the same varieties which were not irrigated, the value of the increased yield of some varieties being as high as \$440 per acre. Asparagus treated in the same way gave increased yield of 23%, worth \$73.35 per acre. The irrigation of nursery stock enabled nurserymen to put large, healthy trees on the market in one year, instead of carrying them two years. These experiments in Missouri have clearly demonstrated the value of irrigation as an insurance against drouth in the humid parts of our country.

### The Irrigated Colonies of the Salvation Army.

From the address of COMMANDER BOOTH-TUCKER at the Irrigation Congress at Ogden.

To irrigate is to populate, to populate is to colonize. This congress cannot, I believe, too strongly emphasize the fact that irrigation is dependent for its success upon population. Colonization may be defined as the populating of hitherto unoccupied tracts of land. Systematic, scientific colonization is to haphazard colonization what the railroad is to the prairie schooner, or what irrigation is to the mountain torrent, or what the red Indian tepee is to the modern city hall, or what the galley of Columbus is to the Atlantic liner.

**WHY SOME SCHEMES FAIL.**—The lack of systematic colonization has caused the failure of not a few excellent and thoroughly practicable irrigation schemes. The reason for this is not far to seek. A canal which will irrigate say 100,000 acres of land is necessarily a costly enterprise. The interest and upkeep can easily be met if the whole tract be quickly occupied. But if a small portion only be settled, either the colonists will be disheartened or driven away by the heavy charges made in the effort to pay expenses and pay dividends, or the investors will become discouraged at the long delay and non-receipt of a fair return for their investment. In either case the enterprise will be killed in its initial stage.

Scientific colonization can secure the rapid and immediate enjoyment of the fruits of irrigation. Each is a necessity to the other. An ill-digested and haphazard scheme of irrigation will injure, if not ruin, colonization. Similarly an unsystematic plan of colonization will retard (as it has already done) and frequently ruin the best laid and most feasible plans for irrigation.

Scientific colonization will not wait for the farmer with capital, any more than manufacture will wait for the laborer with capital. Imagine the captain of industry who would employ no laborer who did not possess a few thousand dollars! And yet this is the course which colonization has pursued.

The most that the capitalist, or land owner, or irrigationist has been willing to do in the past has been to bring the water to the land, and accept time payments for the latter from the settler. Further than this they have been unwilling to venture. And hence the colonization of irrigated lands has been almost entirely limited to farmers possessing capital. This has had several serious disadvantages.

**THE ASSISTED COLONIST.**—Irrigation lends itself much more readily to the small intensive farm than to the large ranch from which such settlers usually come. The small farmer, who is not too high-toned to cultivate the land himself, will succeed where the "gentleman" farmer who employs hired help and sends his children to college will fail, even though the latter may control ten times as much land as the former and possess a few thousand dollars. Give the former a chance, select him with care, and back him with say \$500 cash for a start, and he will succeed better than the latter every time. With ample funds for irrigation now in sight, and with some of our brainiest engineers working out extensive plans, what our "arid West" calls for is not the non-resident gentleman farmer with his staff of cowboys, but the resident twenty-acre, horny-handed son of the soil, who does not consider it beneath his own or his children's dignity to drive the plow, milk the cow, and earn an honest living by his sweat of brain and brow. The old time Governor of Virginia was right when he told King George that he would rather have a dozen such than a shipload of the ladies and gentlemen whom the latter was proposing to send out.

Now scientific colonization uses the worthy family that has no cash. It says, in brief, "Place this waste labor upon the waste land by means of waste capital, and thereby convert this trinity of waste into a unity of production." It has been argued, on the other hand, that first they would not go, second they would not stay, third they would not work, and last—but by no means least—they would not pay. We set to work some years ago to put our theories into practice, and are now able to say positively, after more than five years' experience, that they have gone and stayed—they have worked and paid. Even the comparatively few failures we have encountered

have been a valuable education to us, and we are now in a position to handle the largest schemes with self-sacrificing and expert managers to direct the same, and with a practical code of regulations to guard us from the rocks on which so many similar enterprises have been wrecked.

**SALVATION ARMY COLONIES.**—Our three colonies are located in Colorado, California and Ohio, and comprise nearly 3000 acres of land, on which about 400 men, women and children have been settled. On the first two colonies every family is entirely self-supporting, and the repayments have amounted to considerably more than \$20,000.

On the California colony last year the settlers averaged a cash income of \$8.50 per family, each 20-acre farm being worth, with its improvements, about \$3000. The Colorado farms are worth from \$2000 to \$5000, according to their location and improvements. On the townsites have been established some twenty country stores, most of which are operated by colonists. A commercial club has been formed for the development of the business interests of the settlement. Their turnover last year amounted to about \$200,000, while the railroad received some \$50,000 for freight from our little colony depot.

On the California colony a 30-acre tract has recently been sold for \$4650, including orchard, farmhouse and other improvements, being at the rate of \$155 an acre for land which cost us some five years previously \$50 an acre. I mention these facts to prove that we were not over-sanguine when we argued that land thus thickly settled would, by its own rapid increase in value, amply protect the investor against loss. Thus, even supposing that the colonist himself could not or would not pay, the populating of the land would so add to its value that in the course of a few years it could be sold for a sufficient sum to cover the colonist's entire indebtedness and leave him a handsome margin with which to make a new start.

**CAPITAL ESSENTIAL.**—The further extension of colonization will depend not on land being available, nor on the ability to secure colonists, but on the supply of capital. That this can be safely invested we think we have sufficiently demonstrated.

That there is land in abundance admirably suited for colonization no one will deny. We have ourselves under offer two most generous donations of land. In one case 50,000 acres of land, in another 20,000, have been placed at our disposal as a gift, but it would require about \$500,000 in the one case and \$250,000 in the other to establish a suitable colony. With this money we could place about 2000 settlers (including men, women and children) upon either tract of land, which would then be worth from \$50 to \$100 per acre.

President Roosevelt spoke to the heart of the nation when he pointed out the dangers of race extinction and the importance of the family—the large family—to the well-being of the nation. The pivot of true social reform appears to me to turn upon the preservation—and, if necessary, the restoration—of the family unit. Destroy the home and you destroy the nation. We must show the poor man how he can afford to get married and can bring up his family in decency and comfort, and become a home owner. If this cannot be in the city, let us throw open to him our irrigated lands and provide him with the means for making a start. There is no need to treat him as a pauper. We can charge him with every dollar that we expend upon him, and make him pay a reasonable interest in the bargain.

What our American poor ask for is not charity, but opportunity. Let this Congress, then, throw wide open before our working classes that door of opportunity. Let it place within the reach of the landless man our manless lands.

### A Significant Demonstration.

The officers of the Utah experiment station had on exhibition at the Irrigation Congress three sets of blackboard illustrations showing the effect upon different crops of varying quantities of water during irrigating season. The crops used for the experimentation were wheat, oats and sugar beets, all grown upon the best of deep black loam soil and all plots being practically equal in soil conditions.

**WHEAT.**—In the wheat experiments the different quantities of water used during the season and the different results were as follows:

Acres-inches of water used.	Yield of wheat in bushels.
3 1/2 inches	33
6 1/2 inches	36
12 inches	40
15 inches	47
18 inches	46
53 inches	42

The term acre-inches means that the total amount applied throughout the season would cover one acre to the depth given in inches. The water was applied in two irrigations and where the amount used was equally divided between the two waterings the yield was better than when first light and second heavy or first heavy and second light applications were made.

Another point demonstrated in the wheat experiment is that with 20 acre-inches of water at hand for

use it is advisable to utilize the allowance on three acres of ground rather than a less area. This amount of water used on one acre produced forty-seven bushels of wheat, on two acres eighty bushels, and on three acres 105 bushels.

**OATS.**—In the oats experiment the results were as follows:

Acres-inches of water used.	Yield of oats in bushels.
4 inches	63
5 inches	63
10 inches	54
15 inches	69
20 inches	82
46 inches	80

In this experiment 20 acre-inches applied to one acre gave eighty-two bushels, to two acres 108 bushels, and to three acres 175 bushels.

**BEETS.**—The results in watering sugar beets were as follows:

Acres-inches of water used.	Yield in tons per acre.
14 inches	13
17 inches	17
20 inches	20
25 inches	19
50 inches	13

When 30 acre-inches of water was used on one acre of beets the yield was eighteen tons, while the same amount spread over two acres gave thirty tons of beets.

In each of the tabulated showings above the crops were given the various amounts of water stated in two irrigations, an equal amount applied each time.

The exhibit made by the station was an interesting one to all farmers having soil similar to that in which the experiments were made. The further facts are demonstrated that too much water may be used and that with a given quantity of water it is advisable to give partial watering to three acres rather than to apply all the water to one acre.

Altogether the demonstration is one of the most practical lessons ever given out by the Utah experiment station, and it reflects great credit upon Professors J. A. Widdsoe and L. A. Merrill, director and agronomist at the station.

## HORTICULTURE.

### Over-Pruning of Apple Trees.

TO THE EDITOR:—On page 183 of your issue of the 19th inst. is a clipping from the Pomona Times, which tells of a ten-year-old Rhode Island Greening apple tree which has just yielded 600 pounds of apples. The most interesting part of the paragraph, to me, is the following: "For several years it was carefully trimmed and bore no fruit; for several years past the extremities of the branches were not trimmed, but the inferior ones were cut out to some extent, and each year after pruning the tree bore liberally."

I have a large number of apple trees, they range from eleven down to five years old. Excepting a few Wagner trees, I have not had a crop of anything near it from any of them. They are planted in a windy situation near the coast, my method of pruning has been to train the trees to stockiness rather than withiness, and to that end I have cut the last season's growth to about half every winter, with a view that one part of the tree should shelter the other as one row shelters another, and because an apple grown in the foliage in the middle of the tree is smoother and cleaner than one grown outside, though not so highly colored.

I have heard of this theory of not cutting the ends of the limbs before, but coming from an unscientific source, gave it little credence, and when told that my trees were too close and woody I referred to the Kings: "Now there, those are about right." Yes, but that is the nature of the tree. Here is a Spy, a close grower, and no amount of pruning can spread it. There is a block of Spitzenbergs; if they were not cut back two-thirds of their yearly growth they would look like a lot of Lombardy poplars.

The fact remains, however, that my trees have not borne, and I come to you to solve the problem. I would say, further, that my trees are in a splendid condition. The Baldwins, of which I have some 600, are exceptionally large and thrifty. It is the general verdict of visitors that they never saw a healthier looking orchard.

C. QUEEN.

Fish Rock, Mendocino county.

You have evidently done too much shortening-in. With some varieties which are by habit "tip-bearers," this removes the fruit buds; with others, which bear upon side spurs, you have discouraged fruiting by keeping the trees too busy growing new wood. You will have to stop shortening-in during the dormant season. If your trees are too thick, remove some of the shoots at their starting points. It will, however, promote fruiting to allow the trees to have their own way as far as possible in their growth, but keep up good cultivation and other care.



## Agricultural Review.

### ALAMEDA.

**SMILAX FOR THE MARKET.**—Niles Herald: Miss Levina Decoto has hit upon the scheme of growing smilax for the market, and has planted out some half dozen rows 30 feet long under the spreading limbs of some great old mulberry and almond trees in the house grounds. A frame was set up and florists' twine used to give it a place to climb. Seed was sown July 1st, and now in ten weeks it has grown to an average height of 3 feet, while here and there are plants nearly 6 feet high.

### COLUSA.

**STOCK DYING FROM PECULIAR DISEASE.**—Sun: A peculiar disease seems to have broken out on Grand Island among stock, from the effects of which in the last few days W. A. Vann has lost five valuable mules and four of his best cows. The animals appear well and healthy, eat well, and in from eight to twenty hours they become sick and die. Dr. S. Odle diagnosed the disease as being anthrax, caused by the bacillus anthracis, an infectious disease of cattle and sheep. It is ascribed to the presence of a rod-shaped bacterium, the pores of which constitute the contagious matter. It is very seldom found among horses and mules, yet it may be transmitted to man by inoculation. The spleen of the animal becomes greatly enlarged and filled with bacteria, also called splenic fever. Dr. Odle communicated with the Berkeley professors and with Dr. C. H. Blemmer, State Veterinarian, and described the illness and symptoms of the stricken animals and received reply that his diagnosis was correct. Dr. Odle will try by vaccination to stamp out the disease before it becomes epidemic among the stock of southern Colusa county.

### CONTRA COSTA.

**THE WINE ASSOCIATION NOT ALWAYS IT.**—Clayton Correspondence Oakland Enquirer: Grape growers have disposed of their crops at prices ranging from \$13 to \$21 per ton. The local wine makers of Black Diamond did not let the California Wine Association rule in the matter of price. The Association some two years ago set the price at \$15 per ton. But the Black Diamond buyers gave an average of \$5 more per ton, and succeeded in buying, whereas the representative buyer of the Association failed to buy a single ton within a radius of 3 miles of Clayton.

### KINGS.

**SOME TALL CORN.**—Hanford Journal: E. J. Crandall went to San Francisco Friday and took with him a specimen of Kings county corn, to be placed on exhibition. The corn stalks are 15 feet 4 inches in height and 1 foot from the ground to the lowest ear. They were selected from a field belonging to S. J. White, south of Kings, where specimens of even more luxuriant growth might easily be found.

**STARTED HULLERS ON ALFALFA.**—Hanford Sentinel: Warren Adams, who recently procured a new alfalfa hulling machine, has commenced work down in the Paddock district on the ranch of John Siegler. The machine works well and the report is that the alfalfa is turning out a good crop of seed.

**ALFALFA SEED NOT VERY GOOD.**—J. N. Crye says the alfalfa seed thresher which he and his brother have been operating for the past three weeks will have a run of about three weeks more. The machine is threshing on W. Wile's place in Lakeside district now, but the seed is turning out rather poorly there, and has done so in almost every other place where they have threshed.

### LOS ANGELES.

**OUTPUT OF CITRON.**—Monrovia Messenger: S. A. Clares, manager of Dr. Westlake's citron factory, reports having shipped Saturday 275 boxes of cured citron, which closed the output for last season's crop. The total shipment was 1525 ten and twelve-pound net boxes, which were sent to Los Angeles dealers for the local trade.

**CANNERS' PRICES FOR FRUIT.**—G. E. Gier, manager for the Pasadena Canning Co., places the output at 175 tons of apricots, from 750 to 800 tons of peaches, 66 tons of pears, 50 tons of plums, from 15 to 20 tons of Muscat grapes and 600 tons of tomatoes. Prices average \$18 for apricots, from \$20 to \$25 for clingstone peaches, \$15 for freestone peaches, and \$20 for plums.

**WHITTIER CITRUS ASSOCIATION.**—At the annual meeting of the Whittier Citrus Association it was shown that 325½ acres of citrus orchard land was represented in the association, 128 acres being in oranges. The latter has brought in big

returns to the growers, who marketed 21,107 boxes of oranges through the exchange, receiving therefor \$24,242.24. The receipts for the lemons, while not available in figures, have been far above the average. The Citrus Association elected directors for this year as follows: Dr. C. J. Cook, A. L. Reed, F. A. Fletcher, William Espolt, Edgar Nordyke, F. O. Sargent and H. C. Baldwin.

### MONTEREY.

**AN INJURIOUS PEST.**—Watsonville Pajaronian: The pest which Horticultural Commissioner D. W. Rohrbach reported last week as doing so much damage in an orchard of the Prunedale district has been classified by Professor W. T. Clark as a tortricid or "leaf folder," one of the most injurious members of the moth tribe. This is not the first time that the tortricid has been seen in this section. In their investigation of codlin moth conditions the specialists have found specimens of it in different orchards, but the Prunedale orchard is the first one reported in this section where the pest has done serious damage. In the case cited it has rendered 60% of the apples unmarketable by cutting through the skin. The tortricid appears from time to time, like the locust. There is no sure remedy for successfully combating it. The arsenical sprays are perhaps the best applications that can be made in the case of this pest, but owing to the fact that it lives underneath the leaves and persists in pulling them down over it the spray does not reach the objective point readily. Where this pest appears early in the season it will be necessary to throw spray upon the trees in such a manner that it will come in contact with the under surface of the leaf.

### NAPA.

**LARGE PRUNE CROP.**—Register: Owing to the unusually large crop of prunes in Napa valley this year the two large drying companies, the Fisher Packing Co. and the Napa Fruit Co., are kept busy. The prune season opened about three weeks earlier than usual this year and the excellent drying weather has facilitated the process to a great extent, enabling the driers to clear the ground for fresh fruit. In each company there are nearly 100 hands, men and women, employed. The crop is practically all in now. From one of the driers one car of packed prunes is daily being shipped to Eastern points.

### NEVADA.

**GRASS VALLEY PEARS.**—Perhaps the largest individual shipper of Bartlett pears from Grass Valley is John Bree, of Forest Springs, who has sent off 1000 boxes during the season. Of this number 200 were sent direct to London. Returns have not yet been received, but it is believed the fruit will bring a fancy price in the foreign market.

### ORANGE.

**SOME TOMATOES.**—The Orange County Preserving Co.'s cannery at Anaheim has been running full time on tomatoes, and it is expected that they will have put up 350,000 quart cans by the end of the season.

**SALE OF WALNUT CROP.**—The season's walnut crop in the San Juan valley this season amounts to a little over twenty-four carloads, and half that quantity has been bought by Guggenheim & Co. of San Francisco. The price paid was 12c a pound. The last of the crop has since been bargained for.

### RIVERSIDE.

**RAISING DATES.**—Indio Submarine: P. H. Dorsett, assistant at the Pacific Coast Laboratory and Plant Improvement Gardens, Santa Ana; A. J. Pieters, botanist in charge seed and plant introduction and distribution, United States Department of Agriculture, and Arnold V. Stubenrauch, assistant horticulturist and superintendent of sub-stations, University of California, Berkeley, were here for the propagation of date palms. They took keen interest in the one bearing date palm at the land company's reservoir, which had in some manner quite by accident become pollenized, and requested that the fruit be protected for their future inspection. C. E. Mawby has forwarded two huge bunches of ripe dates to the Chamber of Commerce exhibit in Los Angeles—luscious, of excellent flavor, as good as dates from any man's country—and some sixty pounds still remain upon the tree.

### SAN JOAQUIN.

**HIGH OFFERS MADE.**—Lodi Sentinel: Offers as high as \$3 per hundred have been made for Lady Washingtons and Blackeyes, and other varieties range from \$2.65 to \$2.80, but the growers are holding on to their beans, as they fully believe that they will soon secure still higher prices. They are rushing the harvest as fast as possible, as it is almost certain that

many of the late beans will be caught by the early rains, reducing the total yield further.

**ALMOND PRODUCTION.**—A Stockton dispatch of September 26 says: The almond crop is almost harvested. While the yield has been by no means an even one, still growers, as a rule, express themselves as satisfied with the season's production. In some of the orchards near Lodi the best yield in years was obtained, while in others there were hardly enough nuts to pay for advertising the crop. The I. X. L.'s, Nonpareils and Princess paper shells turned out very well, heaviest crops being harvested from the first named. In some of the orchards near Stockton the trees had been irrigated and in these the yield was much larger than in orchards which depend upon the spring rains alone for their moisture.

### SANTA CLARA.

**GROWERS' UNION.**—San Jose Mercury, September 26: The Los Gatos Fruit Growers' Union has installed its grader and will begin receiving prunes on Monday. The dipper and shaker for boxing will be installed on Wednesday, when active operations will begin. The first pool of 350 tons has been sold at a better price than 3 cents, less 5% bag basis. The second pool will undoubtedly be boxed by the union and sold by them direct to the jobber in order to put their new brands on the market.

**GOOD APPLE LAND.**—Orchardists are very favorably impressed with the success that has attended the planting of apple trees in the vicinity of Alviso.

### SANTA CRUZ.

**THE APPLE HARVEST.**—Watsonville Pajaronian: While the apple picking season is not at its best at present, no less than 1500 people find remunerative employment in picking, assorting and packing apples for the twenty-seven packing houses located in this city. Each firm has a large force employed and is doing business on an extensive scale. The apple crop will be larger this season than it was last and a little later the force employed by the packing houses will be almost doubled.

**THE BANNER SHIPMENT.**—Yesterday was the banner day for apple shipments from Pajaro valley, not only for this season, but since apple growing became of commercial importance. Thirty carloads of apples went out on the train last night, nearly all of them billed for the East.

**THE PRUNE CROP.**—Geo. W. Sill, who keeps a close tab on the prune crop of the valley, says that this season's output will not be extra large, and he finds that there will be considerable small stock prunes.

**BEANS.**—This season no less than \$75,000 will come to the people of the valley by reason of the bean crop, which will amount to about 30,000 sacks, averaging eighty-five pounds each. Prices at present average \$3 per 100, or about 10 cents higher than at a corresponding period last year. This season's bean crop in Pajaro valley will be nearly five times as large as that of last season, mainly due to increased acreage.

### SHASTA.

**ALFALFA BY PUMPED WATER.**—Redding Searchlight: Charles Soekel of Cottonwood has closed his irrigation pumping plant for the season. He has alfalfa standing 2 feet high, almost as thick as the hair on a dog's back, that was sowed since the pumping plant started up two months ago.

### SUTTER.

**DELIVERING WINE GRAPES.**—Yuba City Farmer: The wine grape growers are delivering their grapes at present, some of them going to the Marysville winery and the balance to the Sacramento winery. They are realizing about \$12 per ton on board the cars here. This is several dollars lower than last season, but the growers hope for better rates in the future, or perhaps the establishing of a winery in this county.

**HARVESTING BEANS.**—Marysville Democrat: The farmers of southwest Sutter are now busy harvesting the bean and corn crops, that, on an average, are very good. Considerable difficulty is experienced because of a scarcity of help. Quite an acreage in that part of Sutter county is devoted to buckwheat, a most

profitable crop; to the latter the recent north wind did much damage.

**SLUMP IN PRICE OF WOOL.**—Independent: A number of sales of small clips of fall wool have been noted. The prices received were 9½ and 10 cents per pound, a drop of 2 cents from the prices that were in vogue this time last year.

**TALK ABOUT WINERY.**—The wine grape growers hereabouts are having trouble with the sale and delivery of their crop this season. Most of them are selling to the Sacramento winery, but the conditions of the sale are such that the growers say they are getting the little end of the bargain. The prices are from \$8 to \$14 per ton, the Mission and Zinfandel varieties bringing the highest prices. In addition to these low prices the winery requires the growers to furnish their own boxes for shipping, stand the shrinkage between here and the winery and receive as payment one-third cash, one-third February 15th, and the balance June 15th, 1904. The growers claim that the cash payment does not pay for the picking and for them to wait four or eight months for the balance is ruinous to the business. These conditions have stirred up the Yuba City winery proposition again, and there is strong talk of building a winery here before another season.

### TULARE.

**WHEAT SHIPMENTS.**—Porterville Messenger: Nearly 10,000,000 pounds of wheat was shipped out of this section of Tulare county by the Farmers' Union & Milling Co. of Tulare and Stockton this season, which is remarkable for one firm in a poor season.

**PRUNES CLINGING.**—The prune crop is just about harvested in this vicinity and the prune growers say they have had a hard time picking on account of the fruit clinging to the trees. One grower in the Westfield district was compelled to pay \$1.50 a ton for picking, and at the present prices being paid for prunes this eats into the profit very much.

### VENTURA.

**BIG SUGAR SHIPMENTS.**—Oxnard Sun: The sugar campaign at the Oxnard factory is now practically half completed. Sugar is now going forward at the rate of eight cars per day and everything is moving along at a lively gait. While the crop is not coming up to the early estimates, the later beets are showing up much better than the early. This is thought to be due to the late heavy rains, which packed the soil at a very inopportune time for the newly planted beets. Up to the present time something like 100,000 tons of raw beets have been received at the mill, and their average percentage is up to that of previous years, and the belief of factory officials who are in a position to know is that the sum total of the season's output will prove entirely satisfactory.

Warranted  
to give satisfaction.



## GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and  
positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Kingbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

## Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

MAZE & WREN, Modesto, California.



## THE HOME CIRCLE.

### When Nanette Bakes.

When Nanette bakes a jelly cake  
She finds the work so serious  
She cannot have me near her, for  
My presence's deleterious!  
The yellow bowl, so big and clean,  
In which she mixes flour  
Is lucky, for her plump arms clasp  
It fully half an hour.

When Nanette bakes a jelly cake  
She puts her whole soul in it;  
That's why it is so light and good—  
Oh, would that I might win it!  
She whips the eggs till they are pale—  
Poor things, they also fear her!—  
While I must sit with folded arms  
And never once go near her.

When Nanette bakes a jelly cake  
She lets me have a sample.  
"To feast the gods," I say to her,  
"Such food as this were ample!"  
And yet my share I'd gladly give—  
The prospect makes me dizzy—  
For one small kiss from Nanette's lips,  
But she?—she's far too busy!

—Jack Appleton in Lippincott's.

### The True Ownership.

He owns the most of earth  
Who sees its beauty clearest in his day;  
Not him who buys for paltry money's  
worth

A little soil, a little brick and clay,  
And bounds his vision with the narrow  
view

Of personal possession; full as well,  
And with as sane a pride, our boasts are  
due

For the grave space where all at last  
must dwell.

But the wise soul that knows  
The fairness of the world, that rests  
content

With pictures where the gold sunrise  
glows,

Or those of sunset and the twilight  
blent,

That loves the sea and land, the arching  
sky,

Each great and little thing the good  
God made—

The world is his—too wide for gold to  
buy,

Its price but in the soul's uplifting paid.

—Ripley D. Saunders.

### Wilda's Choice.

Wilda was a country schoolmarm, teaching her first school term miles from home. She taught five days one week and six the next, and at the end of every fortnight it was her father's custom either to come for her himself or send some one to bring her home for over Sunday.

On one particular Friday night the uncle whom her father had delegated to go for her failed to put in an appearance, and Wilda, after vainly watching until after ten o'clock for some one to come, decided to get up early in the morning and start for home on foot, with a possible hope that she might either meet her father, or catch a ride with some one else, at least for part of the way home.

The reason why she was so determined to reach home before Saturday night was to keep an engagement with a certain young man by the name of Walter Mather, whom she had promised to marry. In point of fact, there had been considerable difficulty connected with her engagement to this young man. In the first place she was an independent little woman, and wanted to test her own powers at earning a living. In the second, she wasn't just sure that she cared enough for Walter to marry him; and in the third he had met with an unconscious rival in the person of one Theodore Graham, Wilda's father's hired man, who, by the way, could not be called such, according to the common acceptance of the term. On the contrary, he claimed to be a broken-down athlete from a neighboring university, who had begged the privilege of working for her father for the purpose of recuperating his wasted strength.

Wilda had felt no little trepidation in regard to her engagement with Walter Mather. Her father had cautioned her repeatedly about the con-

sequence of making an unwise choice, and some of her numerous friends had felt it their duty to tell her in plain English that he wasn't half good enough for her; that he possessed some traits of character that would surely bring her to grief.

However, Walter's father was a very wealthy farmer, which counted for considerable in those days; but that didn't amount to much in Wilda's estimation, for her own father had enough and to spare, and there was no need of her teaching school, had she not wanted to. The main proposition with her was whether in her uncertain state of mind she was justified in marrying him at all.

Theodore Graham had on several occasions tried to make advances to Wilda; which, under the circumstances, she was wise enough not to encourage, and wise enough to keep to herself. His menial position would not warrant him in advancing very far; albeit, Wilda did not doubt his being a college-bred man, judging from his habits and knowledge of books. But she knew nothing of his life and character, excepting what she observed for herself, and as far as he was concerned he had his own reasons for not letting her or anybody else know that he was a city-bred man too, and that at his mother's death he would come into possession of at least half a million.

Wilda's father, with an eye simply to the best interests of his motherless and only child, had never delegated his hired man to go and bring his daughter home from her school; but somehow Theodore always managed to be at the gate to assist her to alight. Wilda understood his maneuvers, but her father took it as an act of courtesy which was simply her due.

At the first peep of day Wilda was up and dressed, and ready to start for home. Mrs. Thompson, the lady with whom she was boarding that week, said to her—

"You shall not go one step until you have had a good hearty breakfast."

"It is too early for a good hearty breakfast, Mrs. Thompson," said Wilda.

"I can't eat it if you get it."

"Now you just go out and walk around the house and down to the spring and back, and drink in some of this morning air, and then see if you won't eat some of it."

So Wilda did as she was bidden, and to her surprise she did eat her breakfast with a relish.

Mrs. Thompson smiled with approval all the time she was eating; then, when she had finished, she saw her through the gate which opened into the lane, and watched her until she entered the public highway.

Wilda waved her hand good-by, then she said to herself—

"I hope I shan't meet any one coming for me, for at least a mile any way; for I do love to take long walks in the cool of the morning, and hear the birds sing."

Along the road she trudged, her young heart as light and happy as the birds she watched and listened to, thinking of Walter, how happy and pleased he would be to know of the effort she was making to keep her fortnightly appointment with him.

"If he only knew," she said to herself, "he would gladly have come for me himself; but then he doesn't, so there's no use in my bothering my head about that. Besides, father wouldn't be pleased if Walter came for me, as he considers that a particular privilege of his own, from which he derives much pleasure. Poor father! He'll miss me when I'm gone. But this walk! It's going to be a long one; and I don't believe I'd run the risk of walking the whole way for another man living."

Wilda, in her reflections, was trying to reconcile herself to her act, and acquiring the proper respect for and confidence in her lover, but after that last assertion the honest, sunburned face of Theodore Graham rose before her and refused to be put down.

"I don't know why," she said to herself, "he always persists in coming up just at the time when he is least expected."

On and on she walked. The sun

climbed higher and higher, and finally, somewhat heated and weary, she came to the village of Haven, where she sat down on one of the rustic seats in the park. She sat there for some time, with a feeling in her feet that she would like to take off her shoes and stockings, and paddle around on the cool, green grass. But she could not remain long, so she soon resumed her journey, and when she turned the street corner towards home, the eastern sun blazed full into her face. For the first time she realized the day was going to be excessively warm. She had not covered more than a quarter of the way, and her shoes, which were new, were already beginning to pinch, and her satchel increased in weight.

"If I only had my parasol," she thought; "but I was thoughtless enough to leave that at home."

She saw a team coming rapidly toward her, and thought possibly it might be her father, but it proved to be a stranger with a man and a trunk, hastening toward Haven, probably to catch the morning train.

Disappointed and discouraged, she sat down by the roadside to rest. Under the shadow of a great elm she watched and waited for some one to come by and ask her to ride; but as no one came, she plucked up courage, in spite of the burning sensation in her feet and started on.

She judged she had walked about five miles, and then she began to reflect again.

"I wonder," she asked herself, "if I'm not foolish for undertaking such a walk as this? Supposing I didn't keep my engagement with Walter, what difference would it make? I'm not sure that he'd care, and I don't believe he'd go to all this trouble for me. Besides, what view will he take of it? Well!" she exclaimed after a few moments more of reflections, "I've never broken my word to anybody yet and I'm not going to begin with him. I told him I would surely be home to-night, and I'm going to keep my word. Oh," she continued, "these feet will be the death of me," when she heard the rumble of wheels approaching her from behind. She looked around and to her delight she recognized Mr. Cline, an old friend of her father's.

"Why, Wilda Wright!" he exclaimed, reining in his horse. "What in the name of sense are you doing here this hot day?"

"Father didn't come for me last night, so I thought I'd walk."

"Walk, child! Why you must be crazy. Why, its twelve miles if it's an inch."

"Ten, father calls it," replied Wilda.

"Yes, by taking some cross-cuts. But what's the stress 'bout your getting home? Homesick, eh?" he asked, peering under her straw hat.

"No, not exactly that," said Wilda, prevaricating a little. "But it's been two weeks since I've been there."

"Well, you're a plucky girl to say the least; and if I weren't in such a confounded hurry to get back with this cutter bar, I'd take you clear home. But you see," he added apologetically, "the men can't go on with the haying until I get there."

"Oh, that's all right, Mr. Cline. I don't mind it. I can just as well walk as not," said Wilda, bravely, at the same time secretly wincing at the pain that was getting more intense in her feet.

"But you won't get home for dinner," he said solicitously.

"Oh, yes I shall," replied Wilda.

"I'll be home long before that."

"It will be a little out of your way, but get in and ride as far as my house," he said reflectively, and then drove rapidly into the south fork of the road. "From there you can go across lots, and in the end you will save time."

"Yes," said Wilda, thinking the while that their way led right by Walter Mather's house.

"Perhaps I'll see Walter," she thought, "and he'll recognize the effort it is costing me to keep my promise."

Long before they came in sight of the house, she plainly discerned the maple grove which sheltered the low white farm-house. When they neared the place her eyes searched eagerly

under the low hanging branches for a familiar form. At last she discovered two people swinging leisurely in a hammock, one a girl of her acquaintance, the other, Walter Mather, with his arm around her waist.

For a moment Wilda's heart beat wildly, and then it seemed to stand still. Her teeth closed like a vice, and could she have opened them to speak, her tongue would have hissed out, "traitor."

Suddenly Walter caught the sound of wheels, and looking up recognized her, withdrew his arm, and bowed.

Mr. Cline had caught the drift of things too, and giving his horse a clip with the whip, in the midst of a cloud of dust they descended the hill.

"Who was that young woman with Walter Mather?" he asked, as soon as they were well over.

"Miss Wood," said Wilda, savagely.

"The bold minx!" he ejaculated, to which Wilda dare not trust herself to reply.

Soon now they were at Mr. Cline's gate, when Wilda, unassisted, clambered out of the wagon, and, after thanking him for her ride, started down the road toward home.

"Take it across lots, Wilda," Mr. Cline called after her.

"All right, Mr. Cline. Excuse me, I forgot," she called back.

Then she turned in toward the high rail fence, climbed over it, and when she was well into the field beyond, in sheer desperation she sat down on the ground with her back against an old stump and began to cry.

"Only to think," she burst out indignantly, "of my going to all this trouble just for him. The mean, deceitful wretch!" and the heavy heads of grass bent low and answered, "yes." "Now I know why I could never tell whether I loved him or not. He don't deserve it," and the waving grass bent its heads still lower and whispered: "No, he's deceiving you." "I'll never, never speak to him again," she cried.

"I wouldn't if I were you," croaked a blackbird, as it lighted on the stump above her head.

"I don't believe Theodore Graham would be guilty of treating a girl like that."

"Indeed, he wouldn't," again croaked the blackbird, flying away.

"And I've been as mean to him as I could be and snubbed him every chance I could get. Oh, I wish I wasn't such a fool!" And covering her face with her hands she broke into a flood of tears.

After she had vented to her heart's content, she arose with difficulty to her feet, and hobbled a way through the tall grass. Every step she took she almost cried out with pain. She knew her feet were swollen to bursting, but she dare not take off her shoes for fear she could not get them on again. So she traveled on as best she could, crossing fields and climbing fences, until finally she came out at the north fork of the road and was in sight of home.

How cool the tall pines looked, silhouetted against the blue sky, and how she longed to be in the shadow of their thick branches; but between her and them was a great field of waving rye. To attempt to cross it she knew would be like blazing a way through an unbroken forest, but to accept the other alternative and add another mile to her journey by going around was simply out of the question.

The opposite side of this field lay parallel to her father's orchard, where leaning on a gate post stood a tall, athletic appearing man, intently watching a peculiar wave which seemed to be slowly approaching him through the rye.

Suddenly the tall spears of grain parted, and, catching sight of a scarlet face beneath a white straw hat, he exclaimed:

"Why, Wilda—Miss Wright—what in the world does this mean?"

At the tone of eager sympathy in his voice, Wilda's lips quivered and she began to cry.

Impulsively Theodore grasped her by the hand and led her through the open gate into the orchard, and sat her down in the shade of an apple tree.

With a feeling of disgust at herself for



exposing her weakness, Wilda snatched off her hat and threw it on the ground. Theodore quickly took it up and began to fan her with it, and after she became more composed, he asked:

"How far have you walked?"

"Most of the way," was her curt reply.

"Where did you miss your father?"

"Has he gone?" she asked, eagerly.

"Yes, he started early this morning. He didn't know your uncle had not gone until it was too late to go last night."

"I rode part way with Mr. Cline."

"That's how you came to miss him. You took the south fork?"

"Yes, of course," snapped Hilda, thinking of what she had seen under the maple trees.

"But you should have either met him or he overtaken you before that," persisted Theodore.

"Perhaps I should, and he didn't," retorted Wilda, thinking of the time she loitered away in the park at Haven.

Theodore ventured no reply. He saw plainly that it would upset her mind; further questioning was not only useless, but cruel.

A big ripe apple fell at Wilda's feet. She took it and began to eat it ravenously. After she had finished and thrown the core away, Theodore ventured to ask:

"Why were you so bent on getting home to-night, Wilda?"

"To keep my appointment with Walter Mather," she responded, unhesitatingly.

"Do you think it will pay?"

"It has paid already," she replied spitefully, at the same time wincing at the sharp pain that darted through her foot.

Theodore was startled at the look of agony that came into her face, and was just going to speak, when she interrupted him by saying:

"Theodore, I am almost dead with pain in my feet, but I want to tell you one thing, I'm through with Walter Mather for all time. I tried to make myself believe I loved him, but I don't. When he comes to-night I shall not even see him, and he will not need to be told why. Now take me to the house, for my feet are murdering me, and I am afraid I am going to faint."

Then she attempted to rise, but staggered and fell fainting into Theodore Graham's arms. When she came to he was fanning her with all his might, and calling her by all the endearing names of a lover's calendar. Wilda opened her eyes and smiled. Then he lifted her in his arms and carried her to the house and laid her on the bed.

That evening just about sundown, Walter Mather came driving up with a spanking bay team and a new piano-box buggy, but Wilda was too indisposed to see him, and, apparently crestfallen, he drove away without even asking why.

The next night, by common consent of Wilda and her father, Theodore took her back to her school; her swollen and blistered feet bandaged and encased in her father's slippers; but it was her last as well as her first term of school, for that night she made her choice, and a wise one it was, too.—Mrs. Edward Paine.

#### Vocabulary of the Average Man.

The Indianapolis Journal tackles the old legend that the vocabulary of the average man is limited to a few hundred words, and it has no difficulty in proving, with the help of the dictionary, that the words at the command of any person of fair intelligence run far up into the thousands.

This is a matter that any one can easily test for himself. Open a dictionary at random and see how many familiar words you find on the first page you strike. Here is a page with fifty-three words.

The majority of them would be understood by any tolerably well-read person, and a reader of the most ordinary intelligence would understand at least these ten; Barrel, barren, barter, barricade, barrier, barrister, barrow, baritone, basalt and base. This excludes all proper names, all compounds

like "barroom" and "bartender," and all derivatives, such as "barrenly" and "barrenness." Take another page, under the same restrictions, and we have jaundice, jaunt, jaunty, javelin, jaw, jay, jealous, jean, jeer and jelly—ten again.

Take another—snatch, sneak, sneer, sneeze, snicker, sniff, snipe, snivel, snob—ten once more. There are 1681 pages in all, and at ten words to each we should have 16,810 words familiar to the man on the street.

Shakespeare is said to have used 15,000 words and Milton 9000. The estimate of the Indianapolis Journal that the modern well-read person of fair ability and education understands about 50,000 is not at all excessive.

In the first two stanzas of that familiar classic, "Mary Had a Little Lamb," out of forty-one words, excluding proper names, only six are repeated in any form. Thirty are entirely distinct.

If the average man had a vocabulary of only a few hundred words he could not read "Mother Goose" without a dictionary.

#### Practical Instruction for Girls.

TO THE EDITOR:—Owing to some delays in completing the buildings of the California Polytechnic School, it was not possible to open for students upon the date first advertised—September 15th. The date of opening has been postponed to Wednesday, September 30th. All of the contractors are finishing their work as rapidly as possible, and we feel quite confident that we can receive students on that date. We do not expect the recitation building to be completed; but with one or two rooms in it ready for use and the dormitory completed, we can begin the work in a fairly satisfactory manner.

Applications for admission continue to be received and catalogues are being mailed daily to inquirers. These are sent free of charge to any one asking for the same.

Miss Gwendolyn Stewart, our instructor in domestic science, announces the work that she will give the first year. It is as follows:

The first year's course in sewing will consist of instruction in plain sewing, beginning with hand work and leading on to machine work. An outline of the work is as follows:

First—The preparation of the students' equipment for the sewing class—sleevelets, sewing apron, pin cushion, emery bag, etc.

Second—The making of household linen—tablecloths, napkins, pillow slips, sheets, towels, etc.

Third—The making of personal garments for the student herself, leading up to the making of a shirtwaist and simple wash dress.

A strong feature of the sewing work will be daily drill on the different forms of stitches in order that thorough, constant practice, rapidly, as well as skill, in work may be gained. An extra session each week will be devoted to mending. A book of samples will be made by each student for use as a reference book. A study of the manufacture and care of the textiles, with tests of quality and considerations of value and cost, will be pursued in correlation with the materials used.

LERoy ANDERSON, Director.  
San Luis Obispo, Sept. 24.

#### Chance to Enjoy Themselves.

William's table manners were notoriously bad—so bad that he was facetiously accused of spoiling the manners of a pet coon chained in the back yard. He gripped his fork as though afraid it was going to get away from him, and he used it like a hay fork. Reproaches and entreaties were in vain. His big sister's pleading, "Please, William, don't eat like a pig," made no impression upon him.

One day William and his bosom friend, a small neighbor, dined alone, and William was heard to say, in a tone of great satisfaction, as he planted both elbows on the table, "Say, Harry, they's nobody here but us. Let's eat like hogs and enjoy ourselves."

#### Domestic Hints.

**FRIED BANANAS WITH CHERRY SAUCE.**—Cut some bananas in two lengthwise and roll in powdered macaroons. Fry till a good brown in butter. Arrange in a circle, putting in the center some currant jelly with Maraschino cherries in it.

**PINEAPPLE COBBLER.**—Four slices of pineapple cut in dice, one lemon and one orange sliced very thin, eight tablespoonfuls of sugar, one pint of iced water and one cup of shaved ice. Place the fruit in a bowl, strew with sugar and a little ice, and in ten minutes add the iced water. Stir well and pour into glasses half full of shaved ice; decorate with ripe berries.

**PEACH MOUSSE.**—Mash and rub the peaches through a colander, and for every cupful of the fruit allow a heaping tablespoonful of powdered sugar. If you have a quart of the fruit, add to it half an ounce of gelatine, dissolved in as little water as possible. Add a few drops of brandy and fold in a pint of stiffly whipped cream. Put into a mould and pack in ice.

**PEAR PUDDING.**—Pare and quarter sufficient pears to fill a quart measure. To a cup of sugar add a cup of water. Let this boil, then add the pears and stew gently until tender. Soak half of a five-cent loaf of white bread in tepid water until soft, then press dry and crumble fine. Melt half a cup of butter in a skillet over the fire, add the bread and stir continually until well dried, but not browned, then set aside to cool. Beat the yolks of three eggs and half a cup sugar until light, then add in succession half a teaspoonful of cinnamon, the bread and the stiffly whites of eggs. Butter well a deep granite pudding form, put in half of the pears, then the bread mixture and the remaining pears on top. Cover closely and bake slowly about one and one-half hour. Serve hot.

**SALAD ROLLS.**—Two cups of scalded milk, one-fourth cup of butter, two tablespoonfuls sugar, one teaspoonful salt, one yeast cake, flour. Dissolve a fresh yeast cake in a little cold water. Pour the hot milk, which has been scalded in order to sterilize it, and thus lessen the possibility of its turning sour, into a bowl with the butter, sugar and salt. When lukewarm, add the dissolved yeast cake. Add three cups of flour and beat until full of bubbles. Add enough more flour to knead the dough (about two and one-half cups). Put the dough on a floured board and knead until light and elastic. Put the dough into a bowl twice its size. Cover and let it stand in a warm place on the back of the stove, but not where there is any fire. When the dough has doubled its bulk, turn it out upon the board, and knead again until fine grained. Shape into small biscuits. Place them close together in a buttered pan, cover and let rise again. Bake fifteen or twenty minutes in a hot oven.

## GLENN RANCH, Glenn County, :: :: California FOR SALE In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

#### GARDEN LAND TO LEASE.

30 ACRES OR MORE OF GOOD BOTTOM sandy soil, suitable for general market gardening; 2 miles from R. R.; 2 miles from one of the best young towns in the State. Three outside vegetable wagons sell from \$30 to \$40 per week per wagon. Close to two summer resorts and other small towns where vegetables sell high. House, barn, etc. For particulars, address

WALTER ARMSTRONG, Sebastopol, Cal.

#### Alfalfa Land \$2 per acre. cash.

50 cents per acre per month buys a home in the Buena Vista colony at a total cost of \$20 per acre. Ditch and artesian water. P. H. JORDAN CO., 116 Montgomery St., San Francisco.

# HEALD'S

BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 800 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

Telephone Main 199.

Blake, Moffitt & Towne.

DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.

BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, MCFALL & CO., Portland, Or.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE

KEARNEY PARK, FRESNO, CALIFORNIA



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, September 30, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	78 3/4 @ 77 1/2	80 3/4 @ 79 1/2
Thursday.....	77 3/4 @ 76 1/2	79 3/4 @ 78 1/2
Friday.....	76 3/4 @ 75 1/2	78 3/4 @ 77 1/2
Saturday.....	75 3/4 @ 74 1/2	77 3/4 @ 76 1/2
Monday.....	74 3/4 @ 73 1/2	76 3/4 @ 75 1/2
Tuesday.....	73 3/4 @ 72 1/2	75 3/4 @ 74 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	48 3/4 @ 47 1/2	48 3/4 @ 47 1/2
Thursday.....	47 3/4 @ 46 1/2	47 3/4 @ 46 1/2
Friday.....	46 3/4 @ 45 1/2	46 3/4 @ 45 1/2
Saturday.....	45 3/4 @ 44 1/2	45 3/4 @ 44 1/2
Monday.....	44 3/4 @ 43 1/2	44 3/4 @ 43 1/2
Tuesday.....	43 3/4 @ 42 1/2	43 3/4 @ 42 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 41 3/4 @ 1 40	\$1 41 3/4 @ 1 41
Friday.....	1 39 3/4 @ 1 40 1/2	1 40 3/4 @ 1 41 1/2
Saturday.....	1 41 3/4 @ 1 41	1 40 3/4 @ 1 41
Sunday.....	1 40 3/4 @ 1 39	1 40 3/4 @ 1 40 1/2
Tuesday.....	1 38 3/4 @ 1 39	1 38 3/4 @ 1 39
Wednesday.....	1 38 3/4 @ 1 37 1/2	1 38 3/4 @ 1 37 1/2

### WHEAT.

There was further depression in the speculative market for wheat on Thursday and Friday of last week, December option selling down to \$1 39 1/2. There was considerable recovery Saturday, the above option closing at \$1.41 1/2, with a correspondingly better tone at same time in the spot market. On Monday options were again lower, December declining to \$1 39. Business in spot wheat continued of slow volume, and was mainly on local milling account, prices here being still above the parity of values in the importing countries of Europe and not permitting of any noteworthy outward movement. Only for stiffening purposes has any wheat gone aboard ship lately at this port, and this is likely to be the case during a great part of the season. Not only are local prices too high for shipment, but the quantity of wheat in this State is too light to admit of any extensive export trade. Ocean freight rates for wheat remain at an exceedingly low range and at losing figures to ship owners. One vessel was chartered the past week for barley and wheat to Europe, the wheat necessary for stiffening to be carried at 12s 6d, or \$3 per long ton of 2240 pounds. Some wheat is being landed here from Oregon and Washington at slightly lower figures than current for the California product. Much of the wheat which has gone outward from here this season was received from the North. Wheat shipments from San Francisco for the season to date foot up less than 9000 tons, as against about 70,000 tons of barley for same period. At corresponding date last year the wheat shipments footed up nearly 60,000 tons. At the close of the week and spot market was dull and devoid of strength.

California Milling.....	1 50 @ 1 55
Cal. No 1 shipping, alongside.....	1 40 @ 1 42 1/2
Oregon Club.....	1 40 @ 1 42
Washington Blue Stem.....	1 40 @ 1 42
Washington Club.....	1 40 @ 1 42
Off qualities wheat.....	1 40 @ 1 42

### PRICES OF FUTURES.

December, 1903, delivery, \$1 41 3/4 @ 1.37 1/2.  
May, 1904, delivery, \$1 41 3/4 @ 1 40 1/2.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.38 1/2 @ 1.37 1/2; May, 1904, \$1 40 1/2 @ 1 40.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	65 5d @ 65 5/4d	s-d @ s-d
Freight rates.....	— @ 21 1/2s	12 1/2 @ 13 1/2s
Local market.....	\$1 17 1/4 @ 20	\$1 40 1/2 @ 42 1/2

### FLOUR.

The market has been inclining a little in favor of the buying interest, with stocks and offerings on the increase. It is not probable, however, that there will be any appreciable declines in quotable values in the near future. The outward movement lately has been of very fair volume, considering the somewhat limited supplies, the bulk of the exports going to China.

Superfine, lower grades.....	23 00 @ 23 25
Superfine, good to choice.....	3 35 @ 3 50
Country grades, extras.....	4 00 @ 4 25
Choice and extra choice.....	4 25 @ 4 50
Fancy brands, jobbing.....	4 50 @ 4 75
Oregon, Bakers' extra.....	3 50 @ 4 00
Washington, Bakers' extra.....	3 50 @ 4 15

### BARLEY.

Taking the market as a whole, there has been a somewhat easier tone than during preceding week. Quotable values

in the sample market were without pronounced change, but transfers were less readily effected at full current figures. The inquiry was largely for high grade barley for shipment. Three ships were added to the chartered fleet for barley, one of the vessels to take wheat as stiffening at 12s 6d, and barley as the main cargo at 15s 9d, to Queenstown for orders. The other two ships are to take straight barley cargoes, one at 15s. to Queenstown for orders or 14s. 6d. to direct European port, and one at 15s. 6d. to Antwerp direct, the last named being the largest of the three and having a carrying capacity of 4000 tons.

Feed, No. 1 to choice.....	\$1 12 1/2 @ 1 13 1/2
Feed, fair to good.....	1 10 @ 1 12 1/2
Brewing, No. 1 to choice.....	1 20 @ 1 22 1/2
Chevalier, No. 1 to choice.....	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair.....	1 12 1/2 @ 1 32 1/2

### OATS.

The market for this cereal has not shown much activity since last review, but values were maintained at about same range as was current the preceding week. Offerings were mainly whites and reds, were not of especially heavy volume, and it was the exception where undue pressure to realize was exerted. Black oats continue in very limited supply, more especially choice to select, which are wanted for seed.

White Oats, fancy feed.....	1 30 @ 1 32 1/2
White, good to choice.....	1 25 @ 1 27 1/2
White, poor to fair.....	1 20 @ 1 22 1/2
Gray, common to choice.....	1 25 @ 1 27 1/2
Milling.....	1 25 @ 1 30
Surprise, good to choice.....	1 15 @ 1 30
Black Russian feed.....	1 15 @ 1 30
Black for seed.....	1 45 @ 1 60
Red, fair to choice.....	1 15 @ 1 30

### CORN.

Since last issue there has been a decline in quotable values for this cereal of about \$1 per ton, the weakness developed being due principally to lower markets East and to increased supplies here of imported product. Stocks are principally Large Yellow and White and mixed. The Eastern corn is arriving in bulk, being sacked here when required.

Large White, good to choice.....	1 45 @ 1 50
Large Yellow.....	1 45 @ 1 50
Small Yellow.....	1 70 @ 1 75
Eastern, in bulk.....	1 32 1/2 @ 1 37 1/2

### RYE.

Holders are, as a rule, showing no disposition to grant material concessions to buyers to effect sales. Spot supplies are not large.

Good to choice, new.....	1 25 @ 1 30
--------------------------	-------------

### BUCKWHEAT.

Virtually nothing doing in a wholesale way, owing to absence of offerings. Market has a firm tone.

Good to choice.....	2 00 @ 2 50
---------------------	-------------

### BEANS.

The local market has shown less activity the current week, and has been less buoyant in tone, the most urgent orders, which were principally for Large Whites, having been filled. While there is an easier feeling in consequence of the decreased inquiry, free purchases could not be effected at this date at materially lower figures than lately current. Limas are being very steadily held at producing points as well as in this center. In colored beans there is only a moderate movement and mainly in Bayos, which are being offered in larger quantity than either Pinks or Reds. Of the last two kinds indications are there will not be many on market this season. The Southern Pacific estimates the bean output in the southern counties this year at 750,000 sacks, which is about 100,000 sacks larger than previous estimates. Ventura and Santa Barbara counties are credited with 600,000 sacks, Los Angeles 100,000 sacks and Orange 50,000 sacks.

Pea, fair to good, 100 lbs.....	3 15 @ 3 30
Small White, good to choice.....	3 10 @ 3 30
Large White.....	2 80 @ 3 00
Pinks.....	2 80 @ 3 00
Bayos, good to choice.....	2 65 @ 2 85
Reds.....	2 60 @ 2 85
Red Kidney.....	2 60 @ 2 85
Limas, good to choice.....	3 45 @ 3 65
Black-eye Beans.....	2 65 @ 2 85
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Spot stocks are light of Niles, market for which variety is showing a tolerably firm tone, with fair inquiry. There are not many Green Peas offering from first hands, but moderate supplies are being held by jobbers and millers.

Green Peas, California.....	1 85 @ 2 00
Niles Peas.....	2 25 @ 2 35

### HOPS.

Market is unfavorable to buyers, but there is not much doing in a wholesale way, growers in most instances being either out for the time being or are contending for higher figures than are at present obtainable. The harvest is about over, the crop in this State averaging well as to quality, but the yield per acre in most sections was not up to the usual standard. The Oregon crop has not

turned out well, a large percentage of the hops showing mold on account of unfavorable weather the past month. New York advices by mail of recent date give the following: "Picking in New York State is finished, but baling is so far behind that there are practically no pressed samples shown. Growers take a firm position and are quite indifferent to the bids recently made. A sale of 100 bales nice quality reported at 27 1/2c; most lots held higher. A crop of about 35,000 bales has been harvested in Washington; quality generally good. Cable advices from London place the English crop generally at about 400,000 cwt. The storm which was so severe in Great Britain seems to have done more damage to the quality than to the quantity of hops. The English markets are very firm at 50s to 140s—equal to 10c to 30c per pound. Local dealings are almost entirely in 1902 hops. Most of the best of these are held at 26c, but it is possible that 25c would be accepted by some dealers. On the basis of country cost, the new hops would have to bring about 29c to 30c to brewers, and it is probable that some business could be done at that. An interesting statement has just come from London showing the acreage of hops in Great Britain. For 1903 there were 47,938 acres, against 48,081 acres in 1902, and the decrease since 1901 has been 3200 acres."

California, good to choice, 1903 crop..... 23 1/2 @ 25

### WOOL.

The local market is quiet, and while not noteworthy for strength, there is nothing to warrant marking down quotations. Advices from Eastern manufacturing and distributing centers show a generally steady tone, with stocks of only moderate volume. As has been the case throughout the season, there is little wool offering here from first hands, dealers doing most of their purchasing in the interior. Over 2,000 bags of Fall clip were sold at Red Bluff to San Francisco operators on Thursday and Friday last, the prices ranging from 10 1/2 @ 11 1/2c.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Mountain free.....	11 @ 13
San Joaquin Plains.....	8 @ 11
Nevada.....	12 @ 16

### HAY AND STRAW.

Most of the season's hay in the region tributary to San Francisco is now under cover, and in another week the fields will likely show a clean-up. The weather up to date could not well have been improved upon for the hay harvest. There are no changes to report in quotable values or in general tone. Choice qualities of wheat and alfalfa are selling to best advantage. Medium and lower grades of stable hay are in very fair supply. Offerings of straw have been lately on the increase.

Wheat, good to choice.....	10 50 @ 15 00
Wheat and Oat.....	10 00 @ 13 00
Oat, fair to choice.....	8 50 @ 12 50
Barley.....	8 00 @ 11 00
Clover.....	9 00 @ 10 00
Alfalfa.....	8 50 @ 11 50
Stock Hay.....	8 00 @ 9 00
Compressed.....	11 00 @ 14 50
Straw, 1/2 bale.....	45 @ 60

### MILLSTUFFS.

Bran is in good supply, and is offering at concessions, the demand being slow. There are no great quantities of Middlings at present on the market, but enough to satisfy the inquiry at prevailing values. Rolled Barley inclined slightly in favor of buyers. Milled Corn was offered at reduced figures.

Bran, 1/2 ton.....	21 50 @ 22 50
Middlings.....	26 10 @ 27 50
Shorts, Oregon.....	21 50 @ 22 50
Barley, Rolled.....	24 00 @ 25 00
Cornmeal.....	32 00 @ 33 00
Cracked Corn.....	33 00 @ 34 00

### SEEDS.

Some new crop Mustard is said to have been shipped East from southern coast producing points. Business here lately has been of very light volume and there have been no appreciable changes in quotable values. Canary Seed, both domestic and imported, is in only moderate supply and is being steadily held. Prices for this season's Alfalfa have not been established, no supplies having yet come forward.

Alfalfa, Utah.....	Per cwt. — @ —
Alfalfa, Cal., good to choice.....	— @ —
Flax.....	2 25 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/2
Hemp.....	3 1/2 @ 4
Timothy.....	6 @ 6 1/2

### HONEY.

There have been moderate receipts, mostly representing prior arrival purchases. The market continues to present a firm tone, but is not particularly active, buyers not caring to stock up very heavily at extreme current rates, and

finding it exceedingly difficult to obtain noteworthy concessions in their favor.

Extracted, White Liquid.....	6 1/2 @ —
Extracted, Light Amber.....	5 1/2 @ —
Extracted, Amber.....	5 @ 5 1/2
Extracted, Dark Amber.....	4 1/2 @ 4 3/4
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	9 @ 11

### BEEFWAX.

Market is firm at the quoted range, with offerings light and no lack of demand for desirable qualities.

Good to choice, light 1/2 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Business in Beef is at generally unchanged values, the demand being fair and supplies about sufficient for current needs. Veal is arriving a little more freely, but there is ready sale at prevailing rates for all desirable stock. Mutton is ruling fairly steady at last quoted decline. Lamb now on market is mostly large, and of this sort there is an abundance, prices being barely steady. Hogs were in tolerably free receipt, but for desirable packing stock there was a good demand and prices were tolerably well maintained at the quoted range. Market for small Hogs lacked firmness. Roasting Pigs were wanted at about the prices of packing stock, 5 1/2 @ 6c for 50 to 75-pound weights in fine condition.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6
Beef, 3rd quality.....	4 @ 5
Mutton—ewes, 7 @ 7 1/2c; wethers.....	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 6
Hogs, large hard, over 250 lbs.....	5 1/2 @ 5 1/2
Hogs, small, fat.....	5 1/2 @ 5 1/2
Veal, small, 1/2 lb.....	8 @ 9 1/2
Lamb, Spring, 1/2 lb.....	9 @ 10

### HIDES, SKINS AND TALLOW.

Dry Hides were in fair request and market rather firm in tone, although not quotably higher. Wet Salted stock moved slowly, market inclining against sellers. Tallow was in moderate demand at unchanged figures.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	@ 10	@ 9
Medium Steers, 48 to 56 lbs.....	@ 9	@ 8
Light Steers, under 48 lbs.....	8 @	7 @
Heavy Cow Hides, over 50 lbs.....	8 @	7 @
Light Cow Hides, under 50 lbs.....	8 @	7 @
Stags.....	8 @	7 @
Wet Salted Kip.....	@ 9	@ 8
Wet Salted Veal.....	@ 10	@ 9
Wet Salted Calf.....	@ 10 1/2	@ 9 1/2
Dry Hides.....	@ 16	@ 15
Dry Kip and Veal, 11 @ 12 @ 13 @	@ 13	@ 12
Dry Calf, under 4 lbs.....	18 @	@ 16
Pelts, long wool.....	70 @	@ 50
Pelts, medium.....	70 @	@ 50
Pelts, short wool.....	40 @	@ 35
Pelts, shearing.....	15 @	@ 30
Horse Hides, salted.....	2 75	@ 2 50
Horse Hides, salted.....	2 50	@ 2 00
Horse Hides, dry, large.....	1 75	@ 1 50
Horse Hides, dry, medium.....	1 50	@ 1 25
Horse Hides, dry, small.....	1 25	@ 1 00
Tallow, good quality.....	4 1/2 @ 5	@ 4
Tallow, poorer grades.....	3 1/2 @ 4	@ 3

### BAGS AND BAGGING.

Market throughout is exceedingly quiet. There are no changes in quotable values for bags or bagging of any description.

Bean Bags.....	4 1/2 @ 5
Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/2
Grain Bags, Calcutta, buyer June-July.....	@ —
Grain Bags, San Quentin, in lots of 2,000, @ 10.....	5 55 @ —
Wool Sacks, 4-lb.....	32 @ —
Wool Sacks, 3 1/2-lb.....	30 @ —

### POULTRY.

Demand has been rather light during the greater part of the week under review, and for most kinds the market was weak, especially for common old fowls, which were largely in evidence in the receipts of domestic. Extra large and fat Hens were scarce and sold above quotations. Full grown and spurless Young Roosters and Large Broilers were most sought after in the line of young stock. Young pigeons sold fairly well, but there was little demand for Old. Turkeys were in very light receipt.

Turkeys, young, 1/2 lb.....	21 @ 22
Turkeys, old, 1/2 lb.....	16 @ 19
Hens, California, 1/2 dozen.....	4 50 @ 6 00
Roosters, California, 1/2 dozen.....	4 50 @ 5 00
Roosters, young (full-grown).....	5 00 @ 5 50
Fryers.....	4 00 @ 4 50
Broilers, large.....	3 50 @ 3 75
Broilers, small to medium.....	2 50 @ 3 50
Ducks, old, 1/2 dozen.....	5 00 @ 6 00
Ducks, young, 1/2 dozen.....	5 50 @ 6 50
Geese, 1/2 pair.....	1 50 @ 1 75
Goslings, 1/2 pair.....	2 00 @ —
Pigeons, old, 1/2 dozen.....	1 25 @ 1 50
Pigeons, young.....	1 50 @ 2 00

### BUTTER.

In consequence of the heavy run on cold storage and Eastern butter, supplies of fresh, including some very fine cream-



ery stock, have been accumulating. Large quantities of Eastern creamery in cubes are being cut into squares and foisted upon the market at a big profit, the high prices lately established for California butter enabling importers of Eastern product to do a nice business. While fancy fresh has been quoted up to 32½c, there has been no time within the week that the choicest could not be purchased at 30c by large cash buyers, and at 31½c on credit by retailers. Tendency during the past few days have been to still lower figures.

Creamery, extras, #10.....	30	@—
Creamery, firsts.....	28	@28
Dairy, select.....	27	@28
Dairy, firsts.....	24	@28
Dairy, seconds.....	19	@21
Firkin, good to choice.....	—	@—
Mixed Store.....	18	@20
Pickled Roll.....	—	@—

CHEESE.

Mild new of high grade is in light supply and is selling to advantage, but with this exception the market is well stocked with flats, and custom is being solicited at concessions. Small cheese do not make much of a display, but at present prices buyers are taking hold of them very sparingly.

California, fancy flat, new.....	12½	@13
California, good to choice.....	11½	@12½
California, "Young Americas".....	13½	@14
Eastern.....	14	@15½

EGGS.

Values in the egg market are at a decidedly wide range. For fancy fresh some jobbers are realizing in a very limited way 39¢@40c, and some small retailers are asking 60c, or 5c an egg. On the other hand Eastern firsts out of cold storage have been obtainable down to 20c in carload lots, and for Eastern fresh 25c was a full figure in the jobbing trade. Fully 75% of the present local business is in cold storage and Eastern eggs. California cold storage eggs are selling mainly within range of 24¢@26c.

California, select, large, white and fresh.....	38	@39
California, select, irregular color & size.....	30	@35
California, good to choice store.....	22½	@25
Eastern.....	22	@25

VEGETABLES.

Receipts of most kinds of Summer vegetables are on the decrease. Green Corn will soon be out and present offerings include very little choice. Tomatoes were in decreased demand and lower, present inquiry being mainly for immediate use. String and Lima Beans of fine quality sold to good advantage, while market for common was weak. Onions were in ample supply and prices unchanged.

Beans, Lima, #10.....	2	@	3
Beans, String, #10.....	2½	@	3½
Cabbage, choice garden, #100 lbs.....	60	@	—
Corn, Green, #1 crate.....	1 00	@	1 75
Corn, Green, #1 sack.....	1 00	@	1 50
Cucumbers, #1 large box.....	35	@	60
Egg Plant, #1 box.....	40	@	65
Garlic, #10.....	2	@	3
Onions, Yellow Danvers, #10.....	50	@	65
Okra, Green, #1 small box.....	40	@	60
Peas, Sweet Garden, #10.....	3	@	3½
Peppers, Green Chile, #1 box.....	35	@	60
Peppers, Bell, #1 box.....	40	@	65
Summer Squash, #1 large box.....	40	@	60
Tomatoes, Bay, #1 large box.....	35	@	60

POTATOES.

Stocks of potatoes during the greater part of the week were greatly in excess of the demand and the market inclined in the main in favor of buyers, especially for other than most select Burbanks. Not many potatoes are now going outward in any direction, the inquiry being mostly for local needs. Prices for Sweets averaged a little better than preceding week, but there was no scarcity of supplies.

Sacramento River Burbanks.....	50	@	80
Salinas Burbanks, #1 central.....	1 00	@	1 40
Petaluma and Tomales Burbanks.....	75	@	90
Oregon Burbanks.....	75	@	1 00
Early Rose.....	—	@	—
Sweets.....	1 60	@	1 75

The Fruit Market.

FRESH FRUITS.

Aside from Apples, the market was lightly stocked with deciduous fruit. Apples of high grade were not plentiful, but there were liberal quantities of common to medium qualities. Some of fairly good quality but of small size went at 50c per box, and sales above \$1 per box were the exception; the quality had to be choice and the size desirable to command latter figure in a wholesale way. Very fine 4-tier stock, however, brought better figures, fancy Gravenstein and Spitzenberg, wrapped, being quotable up to \$1 25 per box. Pears are not now making much of a display and are mostly late varieties. A few Bartlettts of choice quality from the mountain districts are bringing comparatively stiff prices. Peaches are in decreased receipt, but values are without appreciable improvement, the demand not being very active. Plums other than Coe's Late Red are practically out. Prunes are not now arriving in heavy quantity, and for best qualities the market is moderately firm at the quoted range. Figs are in light supply and in a small way are bringing comparatively good figures.

Pomegranates moved slowly at quotably unchanged prices. Table Grapes were in liberal receipt and market as a whole was devoid of special firmness, only very fancy stock meeting with noteworthy competition from buyers. Wine Grapes were held about as last quoted, but demand was not brisk at extreme figures. Berries made a light showing and demand for them was limited. Melons were in decreased supply but did not meet with a very firm market, inquiry being slow.

Apples, fancy, #4-tier box.....	1 00	@	1 35
Apples, good to choice, #50-box.....	65	@	90
Apples, common to fair, #50-box.....	30	@	60
Blackberries, #1 chest.....	—	@	—
Cantaloupes, #1 crate.....	1 25	@	2 00
Crabapples, #1 small box.....	40	@	1 00
Figs, Black, #1 box.....	40	@	1 00
Figs, White, #1 box.....	35	@	75
Grapes, #1 crate.....	40	@	75
Grapes, #1 small box.....	30	@	50
Grapes, #1 large open box.....	40	@	90
Grapes, Royal Isabella, #1 crate.....	75	@	1 00
Grapes, Zinfandel, #1 ton.....	22 00	@	25 00
Nutmeg Melons, #1 box.....	50	@	1 00
Peaches, #1 box.....	35	@	75
Pears, Bartlett, #1 box.....	1 00	@	1 50
Pears, other varieties, #1 box.....	40	@	90
Plums, Coe's Late Red, #1 box.....	35	@	50
Pomegranates, #1 regular box.....	75	@	1 00
Prunes, #1 box.....	50	@	75
Raspberries, #1 chest.....	4 00	@	6 00
Strawberries, Longworth, #1 chest.....	5 00	@	7 00
Strawberries, Melinda, #1 chest.....	2 50	@	5 00
Watermelons, #100.....	5 00	@	15 00
Whortleberries, #10.....	6	@	8

DRIED FRUITS.

There is a fairly active demand for most descriptions of dried fruit and the general tone of the market is decidedly firm. There is probably more doing in Peaches than any other one variety, offerings being of fair proportions and the demand good. The quality of the evaporated and dried Peaches this season is of a high average, in consequence of which there is more competition than ordinarily among buyers to secure standard to medium grades. The higher prices on choice to fancy are, however, being well maintained, as the entire output of all qualities this season is not large. Apricots are being offered very sparingly and to effect free purchases an advance on current quotations would have to be paid. Pears are in slim supply, and particularly are choice to fancy difficult to secure in anything like wholesale quantity. Plums are not in large stock here and there are no indications of many being held in the interior; especially are offerings of choice red and yellow of small proportions, and market for these decidedly unfavorable to buyers. Apple market presents an easy tone in sympathy with conditions East, but noteworthy purchases cannot be effected in the local market at any material decline from the figures lately current. Business in Figs is mostly in the pressed product, values for which are quite steady. Further shipments of old Prunes have been made to foreign points the past week, mainly to Germany. Of remaining stocks it is difficult to make purchases of the smallest sizes at less than \$22.50 per ton, and offerings are not heavy. New Santa Claras are not offering under 3c for the four sizes in bags. In outside districts the selling prices range from 2½¢@2¾¢ for fours in bags, delivered at common shipping points.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4½	@	5
Apples, extra choice to fancy, 50-lb box.....	5½	@	6
Apricots, Moorpark.....	8	@	11
Apricots, Royal, good to choice, #10.....	7	@	8
Apricots, Royal, fancy.....	8½	@	9
Figs, 10-lb. box, 1-lb cartons.....	60	@	75
Nectarines, #10.....	4	@	5
Peaches, unpeeled, fair to good.....	4½	@	5
Peaches, unpeeled, choice.....	5½	@	6
Peaches, unpeeled, fancy.....	6½	@	7
Peaches, unpeeled, extra fancy.....	7½	@	8
Peaches, peeled.....	10	@	12½
Pears, halves, fancy.....	8	@	9
Pears, halves, choice.....	6½	@	7
Pears, halves, fair to good.....	5½	@	6
Plums, Black, pitted.....	5	@	6
Plums, Red and Yellow.....	7	@	7½
Prunes, Silver, good to fancy.....	5	@	7
Prunes, in bags, 4 sizes, 2½¢@3; 40-50s, 4½¢@4½¢; 50-60s, 4¢@4½¢; 60-70s, 3½¢@3¾¢; 70-80s, 3¢@3½¢; 80-90s, 2½¢@2¾¢; 90-100s, 2¢@2½¢; small, —@—c.	—	@	—

COMMON SUN-DRIED.

Apples, sliced.....	3¼	@	3½
Apples, quartered.....	3½	@	4
Figs, White, in bulk.....	3	@	4
Figs, Black, in sacks, #10.....	3	@	4
Plums, unpitted, #10.....	—	@	—

RAISINS.

On Saturday, Sept. 26, the California Raisin Growers' Association named the following prices on Raisins, f. o. b., common shipping points. Terms cash, less 4%:

Imperial Clusters.....	\$3.00
Dehesa Clusters.....	2 50
Fancy Clusters.....	2 00
3-Crown London Layers.....	1 55
2-Crown London Layers.....	1 45
Per 20-lb. Box.	
4-Crown Standard Loose Muscatels.....	7c
3-Crown Standard Loose Muscatels.....	6½c
2-Crown Standard Loose Muscatels.....	6c
Seedless Standard Loose Muscatels.....	5c
Seedless Standard Loose Muscatels Floated.....	5½c
Seedless Standard Sultanas.....	5c
Thompson Seedless, Standard.....	6c

The following quotations on seeded are for a limited quantity only:

SEEDED.

Fancy, 16-oz., per lb.....	7¾c
Fancy, 12-oz., per pkg.....	6¾c
Choice, 16-oz., per lb.....	7c
Choice, 12-oz., per pkg.....	6¼c
Fancy, bulk, per lb.....	7½c
Choice, bulk, per lb.....	7¼c

CITRUS FRUITS.

Late Valencia Oranges are offering in moderate quantity at about same range of prices as last quoted, with movement light. Lemons have not been selling freely, the weather most of the week having been unfavorable for consumers taking hold of this fruit. Quotable values were not materially disturbed, but market lacked firmness, particularly for other than most select. Limes were in very light supply most of the week, but a fresh invoice is at hand, and market at close inclines in favor of buyers.

Oranges, Valencias, #1 box.....	1 25	@	2 75
Lemons, California, select, #1 box.....	2 75	@	3 00
Lemons, California, good to choice.....	2 00	@	2 50
Lemons, California, fair to good.....	1 25	@	2 00
Grape Fruit, #1 box.....	1 50	@	2 50
Limes, Mexican, #1 box.....	6 50	@	7 50

NUTS.

Almond market is showing decided firmness, partly in sympathy with the comparatively stiff prices lately established on Walnuts. Present offerings of Almonds are of very moderate volume. Walnuts have been in active request and the bulk of the crop is reported already disposed of at full current figures. Peanuts are ruling steady, there being no heavy stocks and the demand fair.

California Almonds, shelled.....	15	@	18
California Almonds, paper shell.....	9	@	11
California Almonds, soft shell.....	7	@	8
California Almonds, hard shell.....	5	@	6
California Walnuts, paper shell.....	13	@	16
California Walnuts, soft shell.....	12½	@	—
California Walnuts, standard.....	12	@	—
Peanuts, fair to prime.....	4½	@	5½
Peanuts, Eastern, hand-picked.....	5½	@	6½

WINE.

The market remains much the same as noted in last review. Grapes are now being delivered to the wineries in heavy quantities. In some instances \$1@2 per ton above Association prices is being paid, and in other cases where independent buyers are giving no more than the Association they are paying cash, instead of a third down, balance in February and June. The Raisin Growers' Association of Fresno has fixed the price of second crop Muscats at \$10 per ton, 24 per cent sugar, 50c. per ton less for each per cent of sugar deficiency below 24. This is \$2 per ton better than the price named by the Wholesale Dealers' Association. There is little dry wine of last crop now offering from first hands and prices remain nominally 15¢@18c. per gallon. Receipts of wine at San Francisco last week were 193,850 gallons. The steamer City of Sydney, sailing on Sept. 26th, carried 94,481 gallons and 10 cases, mainly for New York.

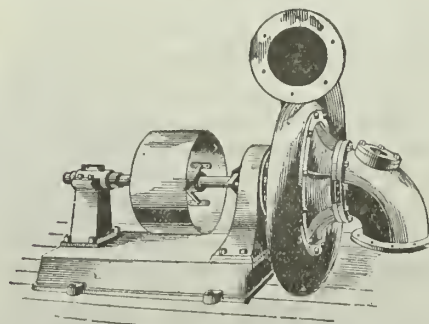
WANTED

A COMPETENT FAMILY MAN WITH EXPERIENCE in orchard and farm work to take charge of 2400 bearing trees and eighty acres of good land, on shares. Location very healthy and twenty minutes' ride from Vacaville.

Apply to Box 55,

Sacramento, Cal.

**YOUR FEET TROUBLE YOU?**  
Our booklet on positive relief for Corns, Callouses, Bunions and Chilblains; tender, tired, aching and perspiring feet; cold, clammy and rheumatic feet; flat feet (broken down insteps) and weak ankles.  
Sent FREE for the asking. Write to-day.  
CHICAGO SHOE STORE SUPPLY CO., INC.  
148 FIFTH AVENUE. CHICAGO, ILL.



**NATIONAL WOOD PIPE CO.**  
**WOOD PIPE.** Woodward Patent Machine Banded. Wheeler Patent Continuous Stave.  
Los Angeles Office: 6th and Mateo Sts.  
San Francisco Office: 301 Market St.  
A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sks.....	152,034	1,545,463
Wheat, ctls.....	55,548	524,206
Barley, ctls.....	280,956	1,996,948
Oats, ctls.....	50,254	389,607
Corn, ctls.....	4,369	40,487
Rye, ctls.....	1,515	19,973
Beans, sks.....	27,234	69,168
Potatoes, sks.....	23,217	295,517
Onions, sks.....	4,245	50,312
Hay, tons.....	4,350	66,396
Wool, bales.....	1,302	15,489
Hops, bales.....	2,960	7,467

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sks.....	146,968	1,074,692
Wheat, ctls.....	22,531	164,389
Barley, ctls.....	216,735	1,344,474
Oats, ctls.....	555	7,429
Corn, ctls.....	104	4,273
Beans, sks.....	1,805	6,414
Hay, bales.....	5,557	45,372
Wool, lbs.....	1,200,659	372,655
Hops, lbs.....	34,609	130,036
Honey, cases.....	57	272
Potatoes, pkgs.....	1,231	20,444

MALTHOID ROOFING



The new high grade roofing for low cost work. On sheds, factories, warehouses, barns, depots, wharves. All buildings of large roof surface that require protection from the elements. A better roofing at the same price has never been produced.

Send for booklet.

The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: a record of solid facts. Every Feeder, Breeder or Farmer should have it for every-day reference.

657 PAGES, BOUND IN CLOTH  
Price, \$2 Postpaid.

PACIFIC RURAL PRESS,  
330 MARKET ST., SAN FRANCISCO.

ALMOND HULLERS

For Sale by

A. O. RIX, Irvington, Alameda Co., Cal.

PEERLESS Centrifugal Pumps

Gasoline Engines FOR ALL PURPOSES.

Complete Pumping Plants Furnished.  
SEND FOR SPECIAL QUOTATIONS.

Baker & Hamilton,  
SACRAMENTO, SAN FRANCISCO, LOS ANGELES.



## SHARPLES TUBULAR FARM SEPARATOR

Just one Tubular, all the others are of the "bucket bowl" type. Plenty of the old style, bucket bowls, but only one of the Tubular style. Others have tried to imitate, but they can't get around the Tubular patents. If you want the

### Improved Tubular Separator

come to us; if you are satisfied with the old style bucket bowl, go to any of the others. Write for catalogue No. 131.

The Sharples Co., P. M. Sharples,  
Chicago, Ill. West Chester, Pa.

## THE VETERINARIAN.

### Anthrax in Inyo County.

There has been an outbreak of anthrax in Inyo county and the Register gives an interesting account of a public meeting at which an audience of 300, including about all the stock owners in that part of the valley, was addressed by State Veterinarian Dr. Chas. H. Blemer.

Many questions were asked and answered. The more important answers are contained in the following:

**SYMPTOMS.**—Anthrax symptoms on postmortem examination are: Spleen enlarged from two to five times normal size, and semi-liquid in consistency; enlarged liver; blood very dark in color, with a varnish-like appearance and watery consistency; intestines and heart congested; carbuncles often seen. Cures are very rare, though an occasional mild case may be cured by the use of internal antiseptics. The carbuncular form is the one most prevalent here, due probably to inoculation from flies. The contagion in this valley was probably brought from Long Valley, where it has prevailed to some extent for many years.

**WHAT TO DO.**—Proper management where the disease exists consists in immediate cremation of the carcass of every animal, a point which Dr. Blemer strongly emphasized as a necessity; temporary quarantine of suspected pastures, and moving the herd to high and dry ground—better let the rations be a little short for a while than to leave the animals on infected pasture; separation of infected animals from the herd if possible.

**VACCINATION.**—Great care must be exercised in the use of vaccine, which varies greatly. It is not advisable to vaccinate animals in a herd in which anthrax has already appeared. All cattle now in the mountains should be vaccinated before being brought out, if moved before cold weather, and in any case they should be vaccinated next spring. All vaccination should be done if possible before warm weather begins. When animals cannot be moved to other pasture, vaccination may be advisable, if no infection has appeared in the herd; otherwise the disease might be started from it. Where properly done, losses of cattle on infected pasture have been reduced from 35% to 2% or 3%. It is not well to vaccinate cattle for two weeks after moving, by which time all probability of deaths among them will have ended. In vaccinating horses, they should not be worked the same day, and if swellings appear at the point of injection they should be allowed to rest until swelling disappears.

Carcasses of anthrax victims must not be fed to hogs, as they are almost certain to die from the effects. Burning off infected pasture is practically useless, as the heat does not kill the germs at the ground level, while infected ground is usually too moist to be well burned over.

The method of injecting vaccine is as follows: Grasp the skin of the neck or shoulder and raise it from the flesh; insert the hypodermic needle and inject dose between hide and flesh. The

brisket will answer; but injection should be made where the circulation will take up the matter in the least time. Do not inject virus into the flesh, as the result may be fatal to the animal; place it under the skin, only.

Cattle raised in an infected region are less likely to contract anthrax than those brought in when grown; those feeding on infected lands all their lives are likely to be immune.

**FLIES.**—As flies carry the disease, any precaution that will keep animals free from them is worth taking. The following are given as effective mixtures for this purpose:

Creolin or crude carbolic acid, four parts; fish oil two parts; kerosene ninety-four parts; mix thoroughly and apply by brush or spray to the back and sides; considerable protection will be given for several days.

Pulverized resin, two parts; soap shavings, one part; water one-half part; fish oil, one part; oil of tar, one part; kerosene, one part; water three parts. Place the resin, fish oil and one-half part of water in a pan and boil until resin and soap are dissolved, then add the other ingredients and boil for fifteen minutes. Apply lightly to head, back and sides with a brush. This mixture is rather sticky and should not be used on work animals. Care should be used in heating these mixtures in order that they may not take fire.

**ANTHRAX IN HUMANS.**—Dr. Blemer said that it was entirely safe to use the milk of cows which had been vaccinated; also that cases are recorded where human beings contract anthrax through use of the products of cattle. The secretion of milk is checked by the disease, so there is little probability of getting germs into the system through milk. It might be possible for a butcher to slaughter an animal which had become infected. Anthrax in the human is called malignant pustule, and is contracted through abrasions of the skin into which spores enter from the hides or other portions of animals dying from the complaint.

[We here quote a report from the Bureau of Animal Industry, the Government bureau which makes investigations of these matters a specialty: "In addition to anthrax of the skin (known as malignant pustule) human beings are subject, though very rarely, to the disease of the lungs and digestive organs. In the former case the spores are inhaled by workmen in establishments in which wool, hides and rags are worked over. In the latter case the disease is contracted by eating the flesh of diseased animals which has been thoroughly cooked. These forms of the disease are more fatal than those in which the disease starts from the skin."]

Dr. Blemer said that anything which will lower the vitality of the animal will temporarily check black leg, and that cutting the small artery between the toes of a calf will do as much good as if any patent mixture is injected in addition to the cutting.

There is no danger of any local quarantine if proper precautions are taken. Dead animals must be burned, and the disease stamped out as soon as possible. Cattle dying in Long Valley should be destroyed in the same way, and unless due precautions are taken there as well as in this valley, Inyo should quarantine against that section, even though the stock is owned here. Unless the right care is given to the subject, a quarantine against this county will have to be imposed.

**THOROUGHLY BURN ALL CARCASSES.**—E. M. Brown informs us that a dog on his ranch ate some of the flesh of an animal that died of anthrax. In a short time the dog began having fits, and also showing hydrophobic signs, and was necessarily killed. This opens up another danger from the contagion, in cases where the carcasses are not immediately burned.

The Register urges the immediate thorough burning of every animal which dies these days. It is accepted as a fact that anthrax is spread by large flies, probably more than in any other way in the local contagion. Every undestroyed carcass increases the danger of further spread. More than that, if

not a fly approached the carcass, the germs from an unburned animal will remain on and in the soil, and be washed to other places, and sooner or later cause another outbreak among animals on such pasture. Owners who fail to obey requirements of the supervisors in this respect are arranging for perpetuation of the disease, to their own future loss as well as that of others. Not a case of the kind should be allowed to exist. If owners fail to do their plain duty, officers should do theirs without either delay, fear or favor.

Excited lady (at the telephone): "I want my husband, please, at once." Voice (from the exchange): "Number, please?" Excited lady: Oh! the fourth, you impudent thing."

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

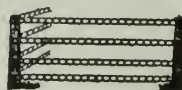
OUR SPECIALTY IS

## CUTTER'S BLACK LEG VACCINE.

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## Once Up, Always Up Truss and Cable Fence



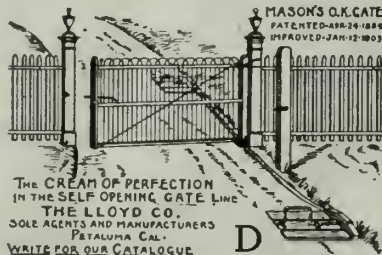
Is the most substantial fence known. It is easy to put up, and easy to

keep up. No expensive special tools are required, and ordinary farm help can do as good a job as the highest skilled mechanic.

It is put up in small compact reels, weighing about 100 pounds each, and is very easily handled on the field.

Write for descriptive circular.

Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.



**TWENTY THOUSAND DOLLARS'**  
worth of Page Fence in Bronx Park, N. Y. Why?  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



**Saves Money**      **Saves Horses**

## The Test of Time

serves to show that for Spavins, Ring Bones, Curbs, Splints and all forms of Lameness nothing is sure but Kendall's Spavin Cure. When men write like the below after years of experience they know what they are talking about.

Shirveston, Cal., Jan. 4, 1903.  
Dr. B. J. Kendall Co., Enosburg Falls, N.Y.  
Dear Sir:—Kendall's Spavin Cure for twenty years has been my cure-all for both horses and man, and has always given satisfaction.  
Very truly yours, W. N. SIBSON.

Price \$1.60 for \$5. As a liniment for family use it has no equal. All druggists. Book "A Treatise on the Horse" mailed free. Address DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

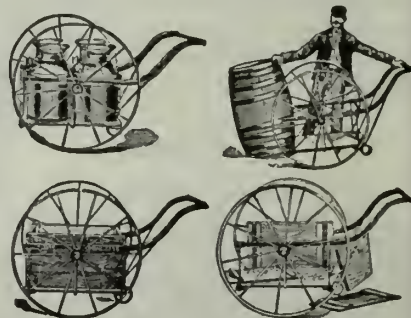
12 & 14 Pine St., San Francisco. Phone Main 1306.

## A MONOGRAPH

ON THE  
ORANGE AND LEMON

Is yours for the asking. It treats on planting, cultivating, pruning, irrigating, harvesting the crop, and all the leading varieties. Fully illustrated with many fine half-ton engravings showing typical orchards, with a description of our methods for raising vigorous citrus trees that will grow and bear abundantly.

SAN JUAN CITRUS NURSERIES  
SAN DIEGO, CAL.



## No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15.

Handles barrels or four large milk cans. Steel frame and steel wheels.

HOOKER & CO.

16 & 18 DRUMM ST., SAN FRANCISCO, CAL.





## THE GARDEN.

## Gardening in the Sierras.

Mr. Charles H. Shinn, whose duties in connection with the forest reserves have kept him in the mountains, writes the following interesting note in the Fresno Republican: Some of the interesting problems of gardening in the high Sierra country have hitherto received little attention. But there are many persons whose homes are far above the well-known centers of horticulture, and they are slowly working out these varied and new problems.

After a season's experience with a garden in Madera county, at an elevation of 6000 feet, I find that the limitations are very evident and one cannot have melons of any kind, even cucumbers failed this season to set fruit, and will not do so, as the frosts began September 5th. Squashes and pumpkins only began to blossom a few days ago. Tomatoes have set and are about as large as marbles. Corn is in silk.

The successes are potatoes, turnips and root crops, also beans of every sort, and garden peas. The English or Broad bean is especially thrifty.

The garden was started as early as the season would permit; the rainfall was abundant and there was a fair amount of water for irrigation until the middle of August. The soil is granitic, with some leaf mould on the lower portion of the garden. It lies on the highest portion of Ellis meadows on the Peckinpa ridge, about 6 miles east of South Fork.

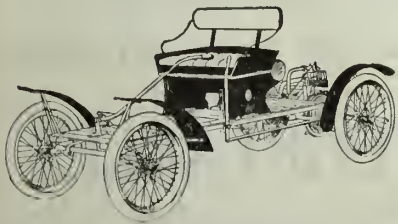
The most striking fact about the garden has been the rapid development of some species, notwithstanding the cool nights. Snap beans were ready for the table in six weeks from the time of planting. Some vegetables, such as spinach, mustard, radishes and lettuce, ran up to seed very fast, and were therefore of little value.

The tests of this season included some varieties of all the annual vegetables known to seedsmen, and the sowings were made in succession, at intervals of from a week to ten days.

Old settlers speak of this season as unusually cool, but it appears probable that the main results would not be materially altered by another trial. These results point to peas, beans, potatoes, turnips, carrots, beets, parsnips and salsify as the reliable crops here, with late corn a reasonable certainty.

The quality of those vegetables which succeed is excellent. The only serious drawback to the maintenance of this sort of a hardy garden is that gophers and squirrels are plentiful and ravenous. Under these circumstances life becomes a warfare and one buys his vegetables with traps, poison and ammunition.

## MODERN LOCOMOTION.



Along the lines of human progress more money has been spent on means of locomotion and transportation than on any other thing. The carriage of state, the railway car, the bicycle, besides water craft, have worried the brains of ages to perfect. Now comes the latest and best of all—the automobile. To most people the auto carriage is a thing of luxury and only within reach of the very rich. So it has been until this year. With the coming of the ORIENT MOTOR HUCKBOARD a new field has been entered—a new era in automobiles begun. The vehicle of low price, simplicity to the greatest degree, economy, high power and light weight, to go, to get there, to return, no trouble—that is the automobile problem. Even in a country where horse feed is the lowest and gasoline the highest, this marvel is ahead of the horse. The price is \$450 delivered to any point in California. The Motor Vehicle Co., 1814 Market St., San Francisco, will be glad to answer all inquiries concerning the huckboard.



**3-HORSE POWER  
Webster Gasoline Engine.**  
RUNS LIKE A WATCH. FITTED  
WITH ELECTRIC SPARK. WILL  
OPERATE A PUMP. RUNS ANY  
KIND OF MACHINERY.  
SEND FOR CATALOGUE.  
**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

## Largest Nursery

West of the Rocky Mountains

CALIMYRNA  
FIGS(Genuine Smyrna Fig of  
Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now  
for delivery 1904.

**Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

RESISTANT  
GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

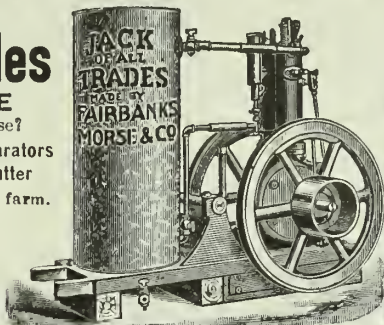
PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**  
GEO. C. ROEDING, PRESIDENT AND MANAGER  
P. O. BOX 18  
**FRESNO, CAL.**

HAVE YOU SEEN THE  
Jack of All Trades—A GASOLINE ENGINE  
of the most modern type for farm use?

Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."

**Fairbanks, Morse & Company,**San Francisco, Los Angeles,  
Portland, Or."EMPIRE KING"  
SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. **Specially Adapted to Distillate Emulsion.** We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO., Lockport, N. Y.**

**California Spray Pump Co., Sole Agts. for California.**  
P. O. Box 717, 134 S. Broadway, Los Angeles, California.

## HERBICIDE

KILLS

WEEDS AND POISON OAK.

Keeps Gutters and Roadways  
Clean.

## ELECTRIC

Worm Eradicator

KILLS

SLUGS, BUGS AND GRUBS

OF ALL KINDS

On All Varieties of Plants and Trees.

Don't be skeptical, but write for facts and particulars to the Pacific Coast Agents,

**ECCLES & SMITH,** 91 FREMONT STREET,  
SAN FRANCISCO, CAL.**C. H. EVANS & CO.,**  
Machine Works.

**Thomson & Evans  
Steam Pumps.**

**DEEP WELL  
and  
POWER PUMPS.**



MARINE ENGINES.

SHIP and STEAMBOAT  
WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St.  
SAN FRANCISCO

**FRANCIS SMITH & CO.,**

—MANUFACTURERS OF—

**SHEET IRON & STEEL PIPE**

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.  
83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.



## The Golden Harvest

will bring more gold to the farmer if he uses complete fertilizers containing not less than 6% actual

**Potash**

The importance of Potash in grain culture is explained in our books which we mail free to all farmers who write for them.

**GERMAN KALI WORKS,**  
93 Nassau Street, New York.

**MEYER, WILSON & CO.,** San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

**75%** That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. **THIS MACHINE AND ALL OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful **Direct Blast Blower Elevator.**

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL **AN ACRE OF CORN** and its possibilities. Gen'l Agts.

**HOOKER & CO.**  
16-13 Drumm St.  
SAN FRANCISCO

Price, 10c in stamps

**PATENTS****DEWEY, STRONG & CO.**

(ESTABLISHED 1860.)

**SAN FRANCISCO, CALIFORNIA,**  
and **WASHINGTON, D. C.**

**OLDEST AND LARGEST AGENCY ON  
THE PACIFIC COAST.**

**WHY TO BE PREFERRED?****BECAUSE--**

**First:** Inventors have the opportunity to explain their inventions personally and directly to the men who write the specifications and make the drawings, so that all the inventor's ideas will be correctly conveyed, avoiding mistakes and vexatious delays.

**Second:** Inventors living at a distance from San Francisco may, where they so desire, consult directly with our Washington office.

**Third:** Inventors receive the benefit of over thirty years' continuous, successful experience.

**Fourth:** A description of the patented invention will appear in the *Mining and Scientific Press*.

We have a complete Patent Library, including official records since 1793 and full certified copies of all patents issued since 1872. These are for free examination by any one who desires.

We attend to all business connected with patents, such as the preparation of Caveats, Trade-Marks, Design Patents, Assignments, Licenses and Agreements. We make examinations as to the patentability of inventions, searches, and give opinions as to infringements, or the scope or validity of Patents. Our Branch Offices and arrangements for Foreign Patents, Trade-Marks, etc., are very extensive and complete. Inventors' Guide sent free on application.

330 Market St., San Francisco, Cal.

AND

918 F St., Washington, D. C.



If your lamp-chimneys break, say **MACBETH** to your grocer—loud!

He knows.

You need to know how to manage your lamps to have comfort with them at small cost. Better read my Index; I send it free.

MACBETH, Pittsburgh.

## HORTICULTURE.

### Large Reward for Cure for Walnut Disease.

Several incorporated walnut growers' associations of southern California and individual walnut growers have signed an agreement offering a reward of \$20,000 to any person or persons who may discover an adequate and practicable means of combating the disease known as walnut blight or bacteriosis.

The \$20,000 are to be raised by a pro rata assessment upon the several associations and individual growers. The pro rata assessments shall be based upon the several crops of the years 1902, 1903 and 1904.

The conditions governing this offer are as follows, viz:

1st. Experiments may begin at any time.

2nd. Experimenters to be responsible for damages to trees and crops.

3rd. The method of treatment must be practicable and within reason as to expense.

4th. All applicants for the reward shall file a description and formula with the secretary of the executive committee at the time of the beginning experiments and such papers shall remain a secret and shall be a protection against subsequent experimenters who might make the same invention.

5th. No reward shall be paid until the method shall have been successfully applied for three seasons in succession.

6th. No reward shall be paid until it can be shown that in two or more orchards in which the disease is prevalent that portion of the orchard which is treated shall show a gain of at least 90% over the portion not treated.

7th. In making final tests the applicant or applicants for the reward may give full written instructions for the method and its application to a committee of three walnut growers, said committee to be appointed by the president of the executive committee, and said committee of three shall make the tests as herein specified in such orchards as they may select and without the knowledge of the said applicant or applicants for the reward, and said committee shall report all results and evidence to the executive committee.

8th. Any walnut grower who may be entitled to use any proposed remedy which is in the hands of the committee of three for final tests may use such remedies by obtaining the same from the executive committee and paying the cost thereof, and all persons using such

remedies shall report results to the executive committee.

9th. The executive committee is not bound to make tests with any remedy which in its opinion has not proven of sufficient merit to warrant it in making such tests, and to this end all experimenters, after proving to their own satisfaction by actual experiments that their remedy will come up to the requirements of the 90% qualification, make tests under the observation of the committee of one or more persons appointed by the executive committee.

10th. In case that two or more methods are successful, the reward shall be paid to the one whose method is most practical, all things considered.

11th. If there are two or more equally desirable and efficient remedies furnished by as many different persons, the reward shall be equally divided accordingly and paid to the two or more persons.

12th. Any foreign applicant for the reward may file his formula and method with the secretary of the executive committee, and have the tests made by said committee, provided said remedy seemed meritorious, and said applicant shall bear the expense of all preliminary tests—provided that such expense shall not exceed 10% of the reward offered.

13th. If no satisfactory remedy is discovered by 1907 the executive committee may withdraw this offer at its discretion.

14th. The remedy or remedies which may be adopted shall, if patentable, be patented by the inventor and assigned to the executive committee of the Walnut Growers' Association of southern California, and shall become the exclusive property of said committee.

15th. The executive committee of the Walnut Growers' Association shall be the sole judge of the merits of any and all claims for the reward, and from its decision there shall be no appeal.

## FRUIT MARKETING.

### The Currant Crop at Patras, Greece.

By the U. S. Vice-Consul, August 19th, furnished for publication in the PACIFIC RURAL PRESS.

The opening price of new currants in this district varies from 12s 3d (\$2.98) cost and freight to New York per cwt. Some business on common qualities has been made with the United States at better prices a fortnight ago. Growers are very reserved, because they consider the prices offered very small. The total market prices vary from Drachmas 155 to 200 (\$29.91 to \$38.60) per 1000 ven pounds.

The conditions of the crop compared with July advices are the same. This year's crop runs to rather small sizes.

Consumption markets are very reserved. They hope that they will have the currants at low prices and they expect to see prices drop down to Drachmas 130 (\$25.09), minimum price, at which the currant bank is obliged by law to buy all currants presented to its stores. The movement of the crop is very slow this year.

TOPSFIELD, MASS., Aug 9, 1901.

DR. S. A. TUTTLE.

Dear Sir:—Last spring I bought a small lot of your Elixir, and since then I have sold several dozen, as it has given good satisfaction in every case where it has been tried, and my patrons all speak highly of it. Now, what I should like to know is, will this Elixir do to rub on the throat for this distemper or horse gripe that is going around. I have been asked this question and refer to you for an answer. Should like to have one of your books.

Yours truly,  
JACOB J. HARDY, Harnessmaker.

### [ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING

or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,

713 Market Street, San Francisco.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING SEPT 15, 1903

739,131—FIRE KINDLER—J. Adler, S. F.  
738,873—SAW SHARPENER—G. Y. Anderson, Dyca, Alaska.  
738,752—ELECTRIC SWITCH—A. H. Babcock, Oakland, Cal.  
738,756—COMPENSATOR—F. G. Baum, Palo Alto, Cal.  
738,757—COMPENSATOR—F. G. Baum, Palo Alto, Cal.  
738,981—FOOD CONTAINER—A. Buntenhach, London, Or.  
738,982—EARTH AUGER—A. Buntenhach, London, Or.  
739,058—BARREL AIR VENT—E. R. Charles, Petaluma, Cal.  
739,151—SHELL DECAPPER—M. Chick, San Diego, Cal.  
738,827—GAS GENERATOR—W. S. May, Clifton, Ariz.  
739,215—WATER METER—Potter & Swank, Riverside, Cal.  
739,219—EXPLOSIVE ENGINE—J. H. Redfield, Spokane, Wash.  
739,230—EXPLOSIVE ENGINE—J. H. Redfield, Spokane, Wash.  
739,038—ABRADING TOOL—J. O. Rollins, Tuolumne, Cal.  
739,119—TACKLE BLOCK—H. W. Stocking, Avalon, Cal.  
739,234—PUMP—Z. Storch, Alameda, Cal.  
739,042—SAND PUMP—M. C. White, Los Angeles, Cal.  
739,043—OIL BURNER AND FURNACE—D. C. Wilgus, S. F.  
739,248—SEAL—Wood & Cooper, S. F.

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations cloth. Price, \$1 postpaid.

## PACIFIC RURAL PRESS.

330 Market St., San Francisco, Cal.

# California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

#### Chapter.

I. The Climate of California and Its Local Modifications.  
II. Why the California Climate Specially Favors the Growth of Fruits.  
III. The Fruit Soils of California.  
IV. The Wild Fruits of California.  
V. California Mission Fruits.  
VI. Introduction of Improved Fruit Varieties.  
VII. Clearing Land for Fruit.  
VIII. The Nursery.  
IX. Budding and Grafting.  
X. Preparation for Planting.  
XI. Planting Trees and Vines.  
XII. Pruning Orchard Trees and Thinning Fruit.  
XIII. Cultivation.  
XIV. Fertilizers for Fruit Trees and Vines.  
XV. Irrigation of Fruit Trees and Vines.  
XVI. The Apple.  
XVII. The Apricot.  
XVIII. The Cherry.  
XIX. The Peach.  
XX. The Nectarine.

#### Chapter.

XXI. The Pear.  
XXII. Plums and Prunes.  
XXIII. The Quince.  
XXIV. Vine Pruning and Planting.  
XXV. Pruning and Care of the Vine.  
XXVI. Grape Vines in California.  
XXVII. The Date.  
XXVIII. The Fig.  
XXIX. The Olive.  
XXX. The Orange.  
XXXI. The Lemon, Lime.  
XXXII. The Banana, Boqueron, Persimmon, Pineapple, Avocado, etc., etc.  
XXXIII. Berries and Currants.  
XXXIV. Almond, Walnut, Chestnut, Peanut, etc.  
XXXV. Fruit Canning, Crystallizing and Drying.  
XXXVI. Injurious Insects.  
XXXVII. Diseases of Trees and Vines.  
XXXVIII. Injurious Animals and Birds.  
XXXIX. Protection from Winds and Frosts.  
XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

# CALIFORNIA VEGETABLES

## GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California  
California Climate as Related to  
Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation.  
Garden Drainage in California.  
Cultivation.  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Radishes.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying.  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## FORESTRY.

## Strange Facts About the Eucalyptus.

Mr. D. E. Hutchins, of Cape Colony, who, in 1882, in conjunction with Sir A. Brandis, discovered the sun-power storage capacity of the eucalyptus, has again been drawing attention in Nature to this extraordinary feature of the tree. According to Mr. Hutchins, a eucalypt plant plantation in tropical mountains, such as in South Africa, under favorable circumstances, stores up about 1% of the solar energy received on the unit of area and it is considered much cheaper in some parts of Cape Colony to plow up the land and plant a forest of quick-growing trees than to import coal.

In 1882 Mr. Hutchins and Sir A. Brandis, as the result of their experiments, discovered that eucalypts planted on tropical mountains produce fuel at the rate of 20 tons—dry weight at 60 pounds per cubic foot—per acre per year in perpetuity. The eucalypt plantation reproduces itself when cut without further expense, and its dry timber, heavier than coal, has an equal or a higher thermal power, bulk for bulk, than coal. This result was obtained as a measurement of the maximum yield of Eucalyptus globulus on the Nilgiris, Southern India. If a chance tree on a chance mountain in a chance soil can produce the equivalent of 20 tons of coal per acre per year, it seems not unreasonable to suppose, Mr. Hutchins suggests, that by selection double this, or 40 tons, can be produced. A powerful sun, a heavy rainfall and a very rapid forced growth are the essentials of such a production of wood fuel. A glance over the rainfall map of the world shows these conditions are fulfilled over about 8,000,000 acres of its surface, which is between one-fourth and one-fifth of the total land surface of 35,200,000,000 acres. One-half of this area under forest might thus yield the equivalent of 160,000,000,000 tons of coal yearly, which is more than 288 times the world's present consumption of coal, assuming that coal and eucalypt timber are of approximately equal heating power. On the basis of the actual forest yield of the present day, we have half of this, or the equivalent of 80,500,000,000 tons. In Germany, one-fourth of the total area is under forest, and, taking the German standard of one-fourth forest, on the basis of the present maximum yield we should obtain 40,250,000,000 tons; while if the maximum forest yield be converted to an average yield there would still remain a yearly product of 20,125,000,000 tons, which is more than thirty times the world's present consumption of coal. Thus it is seen that the yield of firewood from the world's tropical and extra-tropical forests, wherever they are fully stocked and scientifically worked, will yield the equivalent of from 30 to 122 times the present consumption of coal, or even up to 243 times the present consumption, if by cultivation the present timber yield be doubled, as it might be without difficulty.

## Cures Cockled Ankles.

Emmenton, Pa., March 5, 1903.  
Dr. B. J. Kendall Co., Enosburg Falls, Vt.  
Gentlemen:—Enclosed find stamp, for which please send me your "Treatise on the Horse and His Diseases." I have tried your Spavin Cure on a horse for Cockled Ankles and find it all O. K. Please send two books, one for myself and one for a friend.  
A pleased customer. J. J. CALDWELL.

## Breeders' Directory.

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fair for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-old, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS.** Service bulls of noted strains. Joseph Malliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHBRED POLAND-CHINA PORK** "A. L. E. either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUKO HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$90.00 per 1000. Send for folder giving prize record from 1899 to Sept. 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## SHEEP AND GOATS.

**FOR SALE**—Two fine thoroughbred Southdown yearling rams. Won 1st and 2nd premiums State Fair 1901. Perkins & Co., 1028 J St., Sacramento, Cal.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2902, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST**

MANUFACTURED BY

**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco

**MIDLAND FEED.** THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Crumming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

CHAS. D. PIERCE, Pres.

W. FRANK PIERCE, Vice-Pres.

## RIVERSIDE HERD HOLSTEINS.

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered.

Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz. butter yield in 7 days.
Romeo Aaggie Acme	431	7 yr.	26.11 oz.	Corona Clifden	410	6 yr.	16.3 oz.
Fidessa	570	4 "	25 "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d.	499	7 "	23.15 "	Mountain Juliet	382	7 "	15.14 "
Netherland Maud Moore	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	338	4 "	15.6 "
Minnewawa Louise	510	4 "	22.9 "	Lady Kurts Alpa	378	6 "	15.2 "
Nicolo De Kol	6 "	6 "	23.1 "	Pauline Sadle De Kol	367	3 "	15.2 "
De Natsey Baker	484	3 "	21.10 "	Eva Blanco	355	2 "	14.5 "
Ruda 2d Belle	401	7 "	20.9 "	Corona Acturas	344	2 "	14.1 "
De Kol Konigen Van Freisland	440	8 "	20.9 "	Kornd, de Pictertje Queen	300	2 "	13.14 "
Minnewawa Lily	384	4 "	20.4 "	Aral a De Kol	332	2 "	13.7 "
Drusky Artis	460	6 "	20.4 "	Oleander De Kol	324	2 "	13.1 "
Griselda of Brookfield	512	6 "	20.3 "	Rijancia Clothilde 2d	312	2 "	13.2 "
De Kol of Valley Mead	435	4 "	19.9 "	Segriss Pietertje De Kol 2d	355	2 "	12.11 "
Wynetta Princess	391	2 "	18.7 "	Western Princess	294	3 "	12.11 "
Drusa	399	5 "	18.4 "	Painted Lady	327	3 "	12.10 "
Wakalona	393	5 "	18.3 "	Mary Ann De Kol	321	3 "	12.10 "
Olympia Clay	526	6 "	18.2 "	Miranda Acturas	325	3 "	12.3 "
Victor Idewild 2d	371	4 "	17.9 "	Rhoda De Kol Colantha	353	2 "	12.6 "
Cascade Princess	479	8 "	17.2 "	Hengerveld Lass	306	2 "	12.2 "
Western Duches	387	7 "	16.6 "	Princess Louise De Kol	289	2 "	12 "
Aaggie Martin	416	6 "	16.12 "	Wild West De Kol	279	2 "	10.10 "
Roma Princess	366	3 "	16.8 "				

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

## PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103  
STOCKTON, CAL., 'Phone, SUBURBAN 281.



There are DOGS and DOGS. If you want the BEST get Thoroughbred Scotch Collies TOKAYANO KENNELS Colfax, Placer Co., Calif.

## FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWCHILLA STOCK FARM.

Address... ISAAC BIRD, Merced, Cal.

## The Thoroughbred BERKSHIRE BOAR, Highelere Oxford 63442.

Sired by Highelere Ladd II, winner at five fairs. Dam Oxford Belle, winner of ten first prizes; weight in breeding condition 500 pounds.

Young sows and boars of breeding age from this fine boar and out of choice sows for sale by

CHAS. C. PERKINS, Sacramento, Cal.

## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction.

Write for circular. RIALTO CANNER CO., STOCKTON, CAL.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying 113 PULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.

Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1884. Send for Circular.

## CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO., G 26 Montgomery St., San Francisco. G 325 Dearborn St., Chicago. G 338 So. Broadway, Los Angeles.

## HENRY B. LISTER.

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. Room 14, fourth floor, Mills Building, San Francisco. Telephone Bush 348.

## LIVE OAK STOCK FARM,

Six Miles N. W. from PETALUMA, on the Petaluma and Sebastopol Road.

FRANK A. MECHAM, Prop.

Importer and Breeder of

## Red Polled Cattle.

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.

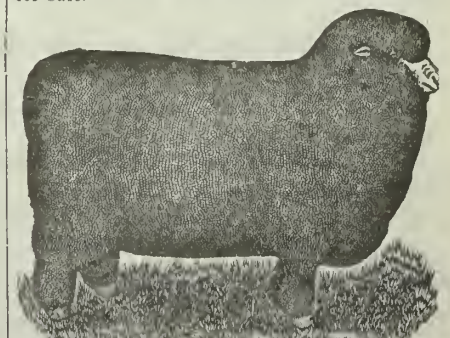


FRANK A. MECHAM.

Importer and Breeder of Shropshire Sheep. They were all imported from England, or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MECHAM, Importer and Breeder,

Shipping Points: PETALUMA AND SANTA ROSA, SONOMA CO., CAL.

## Cocoanut Oil Cake.

THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

EL DORADO LINSEED OIL WORKS CO. 208 California St., San Francisco, Cal.



(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

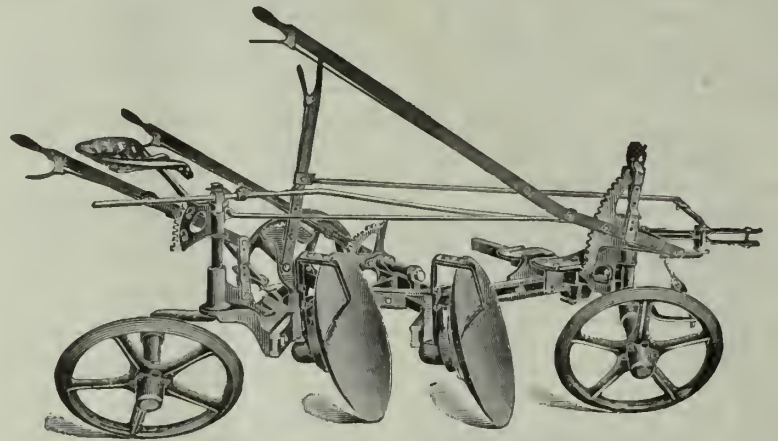
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

If the draft is *one horse lighter* than on any other?

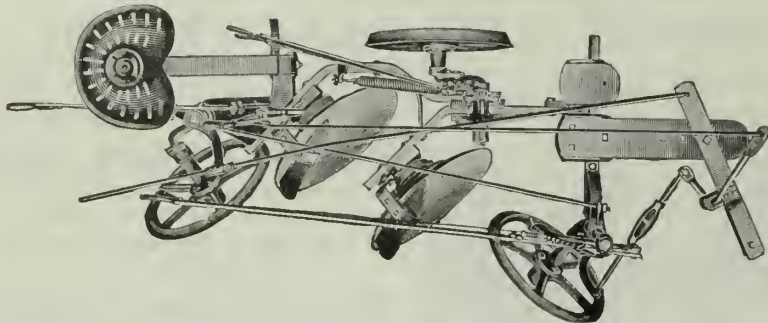
If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.

SEND FOR  
Implement Catalogues  
Nos. 28-29,  
Vehicle Catalogue  
NO. 31.

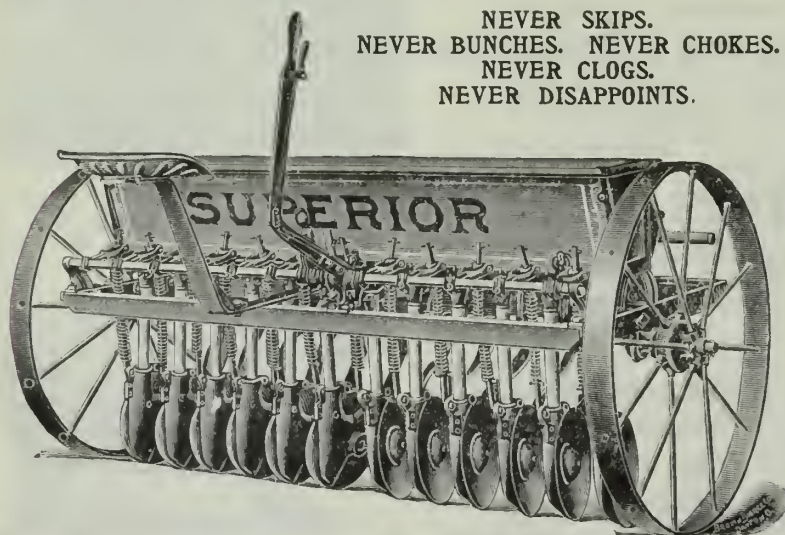


"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



NEVER SKIPS.  
NEVER BUNCHES. NEVER CHOKES.  
NEVER CLOGS.  
NEVER DISAPPOINTS.

## The Superior Single Disc Drill.

CONSTRUCTED OF THE BEST MATERIAL MONEY WILL BUY.

### SUPERIOR SPECIAL FEATURES:

Broad-Tire Wood or Steel Wheels. Both Wheels Drivers.

Solid Steel Frame. Rear Lift. Perfect Balance. Light Draft.

Perfect Double Tree Hitch. Detachable Grass Seeder.

Draw Bars Made of High Carbon Steel. Each Disc and Drag Bar Independent.

Disk Wheel for Changing Quantity Without Change of Parts.

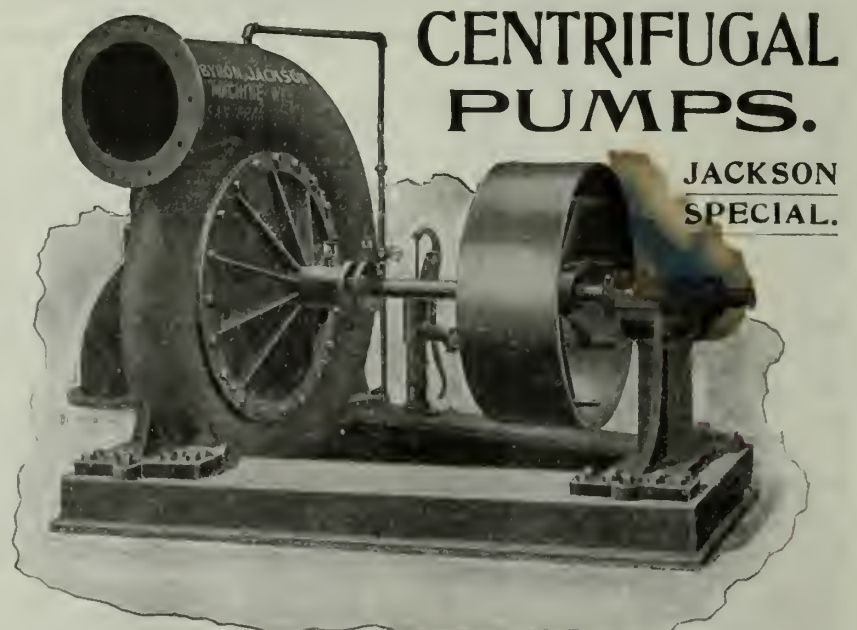
Perfect Direct Spring Pressure.

Pull Rod to Shut Off Feeds Without Raising Discs from Ground.

SEND FOR CATALOGUE.

## The H. C. Shaw Co.,

AGENTS, STOCKTON, CAL.



## CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO.  
Write for Catalogue E.

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**

Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.

**GREENBANK** BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



This paper not to be taken from library.

# THE PACIFIC RURAL PRESS

State Library  
To. I. Staff. Annot. 11

## CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 14.

SAN FRANCISCO, SATURDAY, OCTOBER 10, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Permanent Road Structures.

Some years ago we made reference to the stone bridges of Napa county as instances of the wisdom of putting in road structures of permanent character which could not serve as an occasion for frequent expenditures for real repairs and for more frequent imaginary ones perhaps. Our engraving shows one of the Napa county stone bridges which commends itself upon sight. During the last decade the county has built fourteen stone bridges and a number of stone culverts at an aggregate cost of about \$54,000, replacing wooden structures, which were a constant source of expense for repairs. The foresight and wisdom which is manifested by the people of Napa county in their road work is quite characteristic of their general disposition to build up their county and its prosperity upon lasting foundations. It is creditable to a county to be able to claim the largest stone bridge west of the Rocky mountains, for that distinction belongs to one of their structures.

The stone bridges of Napa county range in length from 50 to 300 feet. The shorter bridges consist of single arches, spanning the smaller streams, and giving abundant waterway during flood seasons. The longer bridges consist of arches in series. The spans of these longer bridges vary from 55 to 75 feet for each span. Two of the larger bridges deserve special mention. The first constructed was the one shown on this page, over the Napa river, near St. Helena. This bridge is 212 feet over all, and has three 55-foot arches, with piers and abutments resting on bedrock. The center arch is somewhat higher than the others. The second is over Putah creek, near Monticello, and is a somewhat larger and more imposing structure. It consists of three 70 foot arches carried down to bedrock. The center span is 42 feet above low water. The abutments are 6 feet below the surface, resting on bedrock. The piers are 16 feet at their base and 10 feet at spring line, and also rest on bedrock. The arch stones are 3 feet 6 inches deep, 12<sup>3</sup>/<sub>16</sub> inches at crown, and 11 inches at base, laid in



Stone Bridge Near St. Helena, Napa County.

cement mortar. The stone used in the bridges is a native sandstone, and is found in abundance near the site. It is extremely strong, having stood a test of 8000 to 12,000 pounds pressure to the inch. There were used in the construction of the last-mentioned bridge 2600<sup>1</sup>/<sub>2</sub> cubic yards of material, 675 barrels of cement, 380 barrels of lime, 55,000 feet of lumber for false work, 1<sup>1</sup>/<sub>2</sub> tons of iron. The only article purchased outside of Napa county was the cement. The entire cost of the bridge was \$19,980, while the two combination wooden-iron bridges erected at this point represent in their construction and maintenance an outlay of \$53,000, and yet, after this enormous outlay, all there was to show for it was a pile of broken and rotten timbers.

ELWOOD COOPER, State Horticultural Commissioner, has fixed the date of the next State Fruit Growers'

Convention for Tuesday, December 8th, to be held at Fresno, and to continue its session for four days. During this period topics of all kinds that are of interest to the fruit growers of the State will be fully discussed, including raisins, grapes, olives, and especially citrus fruits. The subject of better transportation facilities and co-operation in marketing will also be taken up, and papers on the different subjects will be read by some of the ablest fruit growers of the State. Special transportation rates to and from the convention will be granted by the railroad companies.

### Large Seed Onion Field.

We have had previously views of onion seed fields in the Santa Clara valley which were perhaps handsomer than the one upon this page, because the photographer happened by while the seed heads were much in evidence, and their prevalence gave character to the picture. The view which we have this week represents the growing crop of selected bulbs before the seed stems are thrust out and the thrifty growth of foliage is the chief item. Californian onion seed growers of the highest type pay much attention to the selection of form and vigor and truth to the type of the bulbs, and thus secure high-class seed. Unfortunately there are also California onion seed growers who do not go to this trouble and expense, and their product brings our seed product into disrepute, for the imperfect and weak bulbs transmit their character through the seed they produce. It is very gratifying, then, to see such a field as the picture shows, in which the stand is full and the growth uniform.

Another interesting thing about the picture is that it is situated away from the coast valleys, where the greater part of this product has been usually grown, and shows onion seed growing near Stockton on the grounds of the Cox Seed Co. of San Francisco. In the field, of which a part is shown, there were eighty acres set last fall with the finest strains of onions to produce the seed crop of the present year. Seed growing is, as our readers know, one of the most interesting of California field cultures, and one which is bringing our growers into great prominence in all the seed markets of the world.



Scene in an Onion Field Near Stockton.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.  
Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON. Horticultural Editor

San Francisco, October 10, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Stone Bridge Near St. Helena, Napa County; Scene in an Onion Field Near Stockton, 235.

EDITORIAL.—Permanent Road Structures; The Next State Fruit Growers' Convention; Large Seed Onion Field, 225. The Week, 236.

QUERIES AND REPLIES.—The Greedy Scale, Not the San Jose Scale; A Seedling Almond; Cooking Food for Stock; The Codlin Moth in the Peach; Tall Oat Grass; Mahala Mat or Squaw Carpet, 226. Salsify, Okra and Egg Plant; Sterility of White Winter Pearmain; The Anti-Squirrel Campaign; The Leading Winter Apple, 227.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Oct. 5, 1903; Rainfall and Temperature, 227.

AGRICULTURAL SCIENCE.—Simon Simple's Views on Fertilizers, 228.

THE VINEYARD.—Mr. Swett's Notes on Resistant Roots, 229.

THE DAIRY.—Skimming Stations and Farm Separators, 229.

FORESTRY.—Other Fine Trees, 229.

FRUIT PRESERVATION.—A Home Made Steam Drier, 229.

THE IRRIGATOR.—President Roosevelt on National Irrigation, 231.

AGRICULTURAL REVIEW.—231.

THE HOME CIRCLE.—The Belated Lesson; Breaking His Fetters, 232. Large Connection; Believe in Signs; Hints to Housekeepers, 233.

THE MARKETS.—Produce Market; Fruit Markets, 234.

HORTICULTURE.—How a California Woman Succeeded in Fruit Growing, 236.

AGRICULTURAL ENGINEER.—Why Farmers Should Favor Government Co-operation for Good Roads; A Fine Water Plant, 237.

THE VETERINARIAN.—Answers to Inquiries—Treatment for Skin Trouble; Treatment of Horny Tissue on Leg; Another Skin Disease; Treatment for Mange, 239.

MISCELLANEOUS.—New Patents, 235.

## The Week.

The season favors the full use of the dry feed in the central and northern parts of the State, for the showers have hardly been worth mentioning. Stock growers are beginning to think of new grass as desirable and things all around are getting into shape for a good rain. It should begin soon and keep well at it, until the soil is deeply wet, to serve plowing and grass-growing purposes. There promises to be a very busy fall and winter, for the people both old and new to the State seem to have much steam up and much confidence in the outlook. This year's crops, as a whole, will bring much money, and land buying by new comers is quite active. It is certainly a good time now to make investments in California, and the campaign of education at the East is exciting much interest. People who know how to handle land generally can soon get the California points, and a man of strength and energy and a fairly level head is sure to do well. Some plungers may strike bottom, but that is not the fault of the bottom.

Wheat is a little slow on spot and prices are unchanged. Futures have fluctuated somewhat; at Chicago they are about the same as a week ago, but here a little advance has been realized. Two spot charters have been made, one for barley to Europe at 14s 1d, with wheat for stiffening at 11s 3d; another, mixed and part grain, at 16s 3d. There have been seven barley cargoes and four part wheat and one straight wheat, the first of its kind this fiscal year. Half a million's worth of grain has gone out and, adding other exports, a total of a million and a quarter dollars goes to the week's credit. Barley prices are unchanged and minor cereals the same, except that corn is weaker. Beans are upset. There is a strong bear movement crying a break in Large Whites and Bayos, and these varieties and Limas have dropped a little under pressure, but others are unchanged. Millstuffs are slow and unchanged. Stable hay is higher, but cow hay unmoved. Beef is firm, mutton easy and hogs steady, while veal is weak. Butter is weak and lower for off-grade fresh. Cheese is also weak, except for fancy. The best eggs are higher and stored eggs are firmer and have an upward look, as they also have at the East. Young chickens are weak, but large hens still go well; ducks and turkeys firm, and pigeons have sold better. Potatoes are dull as ever

and only a few fancy Burbanks sell well. Onions are quiet and steady. Fine apples go well but there is a great mass of poor fruit. Late pears are selling fairly, and some Winter Nellis are moving, though rather green. Citrus fruits are quiet and new Navels are waited for. Lemons are easy and limes lower. Dried fruit is firm and a good movement with few changes. The trade is still in outside prunes, with Santa Claras firmly held: considerable shipments are being made to Germany and eastern America. Raisins are firm and the relative low rate for seeded, fixed to bother Eastern seeders, is tempting buyers. Almonds are steady and walnuts firm. Honey shipments include 279 cases to New York and 300 cases to London. The trade is active and receipts liberal: some concessions are being reported. Hops are quiet here, though heavy purchasing has been done in Oregon and northern California. Wool buying in the country continues by Eastern firms; little is doing here.

Reports of the walnut crop now arriving from Grenoble speak of a good crop, as the fall storms have lacked the hail which did such injury last year, and delivery prices in New York are said to favor buyers. The California crop has a great advantage in its earliness, for it has already passed largely out of first and even second hands at good values, and growers have plenty of money to fight the blight with as described in last week's issue. Eastern fruit shipments are gaining on the record this week, as the total up to Tuesday were 6448 cars as against 6352 at the same date last year. The later fruits are showing up well, as of 71 cars on Tuesday last 46½ were grapes and 17 apples, with scattering to balance. It is well to push out all the grapes possible. Growers are naturally feeling very glum at the attitude and views of the wine grape buyers. Of course table grapes are largely other varieties, but it helps some to get as many as possible out of the State.

The new agricultural school at San Luis Obispo opened last week with a good attendance of pupils and all conditions favorable for such a demonstration of the popularity of education in agricultural practice as its promoters are expecting. Another indication along the same line is the opening of the ten weeks' course at the University of California. In the dairy course the numbers are about the same as last year, and comprise very satisfactory and promising material. There is much interest in upbuilding the stock industries of California, and the result promises to be very satisfactory, as up-to-date aims and methods are being clearly appreciated. California promises to advance far in advance of anything which has ever been done before in the line of horned stock especially.

The California situation at the St. Louis fair is getting interesting. California had 40,000 square feet of space already secured in the Agricultural and Horticultural building at the big show. This was found to be insufficient, and a request was made for the allotment of several thousand more square feet in the same building. Commissioner Filcher went on to see about it, and now comes a report that the California space is to be cut down, and Commissioner Wiggin has gone on to St. Louis to help out with some remarks befitting the occasion. No doubt the two of them will get all there is in sight. On the whole, it is a good sign that the Exposition is to be short of space. It shows the interest taken by all the States, but the character of the California display, and the fact that the State can send fresh stuff all the year and is well equipped to do it, should ensure space enough for its display in an effective manner. California is ready to make the show effort of her life at this fair, and she must have room if the Exposition has to enlarge its boundaries.

The Tulare district is to be congratulated on having found a way to relieve itself from the ill-starred district irrigation work which was undertaken some years ago. With the burden lifted, it may be expected that this part of the valley may speed to its place in the upward movement which is noticeable all through the great valley, and then the discharge of the lessened debt will be an easy matter. There is naturally much local rejoicing over the new condition of affairs.

## QUERIES AND REPLIES.

### The Greedy Scale, not the San Jose Scale.

TO THE EDITOR:—On Bartlett pears I found several scales from one-sixteenth to one-twelfth of an inch in diameter, almost circular, waxy yellow, with small raised cone or brown nipple in center of the scale, and it corresponds exactly with diagram of San Jose scale. I sent the specimens for identification, and was informed that it was not the San Jose scale, but the greedy scale. I can find no matter on the greedy scale, and would like to get posted, as I feel that I am being imposed on.—WM. C. GRANT, Gordon Head, B. C.

The identification of the scale which you describe is undoubtedly right; it is the greedy or pear scale, and not the San Jose scale. If you have the third edition of "California Fruits," you will find the two classes illustrated and described and their difference marked out on page 443. If you have not this book, we may say that the greedy scale is larger, as a rule, and is of a light yellowish-drab color, while the San Jose scale is gray or black. If you could see the two together, you would have no trouble in noting the difference. There is also a difference in the breeding. The greedy scale has but one brood a year, and is consequently a less serious pest than the San Jose scale, which breeds continuously during the warmer parts of the year.

### A Seedling Almond.

TO THE EDITOR:—I send you in separate package some almonds on which I should like you to pass judgment as to their merit as a commercial nut. The tree is a seedling: it bore a few nuts on its second year, in the nursery row. It is now a well-grown tree, seven years old, and has never failed to produce a good crop.—G. E. DUNIG, Napa.

This nut may be desirable for home use, but it must take low commercial standing. First, it belongs to the hardshell class, though its hardness is only about medium. Second, it uniformly has a doubled kernel, or philopœna. Because of the irregular and angular forms of these doubled kernels they are unsuited to many uses to which almonds are put by confectioners and caterers.

### Cooking Food for Stock.

TO THE EDITOR:—What is the cheapest and best mode of cooking food for stock? I suppose some kind of a steamer would be the best, if the apparatus does not cost too much. Are there such things on the market?—SMALL FARMER, Redding.

The best and cheapest way is not to cook at all. It has been clearly demonstrated by careful experiment that the general abandonment of cooking propositions by those who tried them was a correct deduction from practical experience. Though there may be a small gain in nutritive character in some cases, the cost and bother of cooking is greater than any gain which can be demonstrated.

### The Codlin Moth in the Peach.

TO THE EDITOR:—Does the codlin moth attack the peach? I found several specimens of larvæ in the peaches,  $\frac{1}{2}$  to  $\frac{3}{4}$  inch in length and  $\frac{1}{16}$  in diameter, identical with the larva of the codlin moth; under the microscope I could see no difference. I am told also that the codlin moth does not attack the peach.—WM. C. GRANT, Gordon Head, B. C.

The codlin moth larva is occasionally found in the peach, but not often. One is of course more apt to encounter the larva of the peach moth, which has some points of resemblance to the other.

### Tall Oat Grass.

TO THE EDITOR:—I send a sample of grass grown by a man since deceased and which he called "Kentucky Premium." I cannot find any grass catalogued by that name and suppose it to be fictitious. What is its true name?—A. O. W., Hydesville.

The grass is really "Tall Oat Grass" (*Arrhenatherum elatius*). You can get seed of this grass from dealers in San Francisco, and we may say that it has proven one of the best grasses in California for situations of moderate drouth. It will not endure our driest lands, but where moderate moisture is present will maintain its life during the summer, start quickly in the autumn and make excellent winter pasturage.

### Mahala Mat or Squaw Carpet.

TO THE EDITOR:—I send a stem of a weed which grows in great profusion on the shores of Lake Tahoe. It grows very close to the ground and very



thickly—in fact, the people about the lake call it “California carpet.” It is found in dry places. We have a small place on the lake and desire to propagate this plant in place of grass, as it apparently is evergreen. Will you give the botanical name, as well as the colloquial name, so that I may take steps to procure its seed?—AMATEUR, San Francisco.

The plant which you sent from the Tahoe region is identified by Mr. Hall of the University as *Ceanothus prostratus*, often called “Mahala mat” or “squaw carpet.” It is very plentiful in the middle altitudes of the Sierras, or coast ranges, often forming mats or carpets of deep green of considerable extent. It is evergreen and might well replace lawns at summer resorts, etc., in the mountains. It roots from creeping stems, but in the University botanic gardens at Berkeley there has been some trouble in making it grow from rooted stems. It is, however, easily propagated from the seed, but this seed will probably have to be obtained from local collectors, as it does not seem to be listed by seedsmen, so far as we have seen.

Salsify, Okra and Egg Plant.

TO THE EDITOR:—Will you please print in your valuable paper as soon as you can the following information for me? Does oyster plant (salsify) freeze in winter or is it impervious to frosts? And is the seed sown in the permanent beds or hot beds? What style of plant is okra? Is it like the green pepper plants or more like the squash? Is the fruit sold in green state or ripe, and should the seeds be started in hot beds or permanent beds? Does the egg plant grow like a squash or like green peppers? If grown in boxes in a hot house how deep a box is required to give the roots plenty of room? I think the questions are of interest to a great many people and I shall be more than grateful for any information you could give me. Does okra “freeze,” or is it injured by frost?—NOVICE, Dunbarton.

The roots of salsify are not injured by hard freezing; in fact, at the East the plant is grown during the summer, the roots allowed to remain during the winter in the frozen ground and dug when the frost goes out as a spring vegetable just as parsnips commonly are at the East. Salsify seeds are commonly sown in the open ground and, in California, whenever moisture favors growth. The dwarf okra plant, and it is the dwarf varieties which are chiefly grown, has a bushy growth and resembles in growth the bushy type of peppers, but the foliage is different. The plant is not at all like a squash. The same general statements are true about the egg plant, except that it rather resembles a tomato plant perhaps. Egg plants should be grown in the open ground during the frost-free season or in the ground under glass in the winter. If you desire to use boxes the plant should have a foot of soil if large growth and free fruiting is desired. Okra and peppers will stand a little frost and live over the winter in the open ground in some places in California. Our book on “California Vegetables in Field and Garden” gives details about such plants and their culture in this State.

Sterility of White Winter Pearmain.

TO THE EDITOR:—I have six acres of White Winter Pearmain apples, thirteen years old. They are fine, thrifty trees. Every season they are white with bloom, and all drop. Possibly enough set to average a box per tree. They have had the best of care, and are grown on a sandy loam. It is a solid orchard of this variety. No others nearer than 1000 feet. How do you account for it and can you suggest a remedy? I am willing to experiment one year more. I have Pearmain in another part of my place, that are about 400 feet from other varieties, and they bear every year, and I have just gathered eighteen to twenty boxes per tree, well developed, four-tier apples. I have been told bees are essential. The bloom is full of them. Further, I have been told that they require pollen from other varieties. In each tree last spring I grafted Newtown Pippins and Bellefleurs, but only on one limb. I well understand no results can be obtained from this under two or three years. Is this the correct pollen? They bloom with me nearly the same time. It goes without saying I am disgusted with the apparent outcome. The trees are 30 feet apart. There is no lack of moisture. They are well pruned, and the limbs are full of fruit spurs, and when in bloom are a bower of blossoms. If you can solve this problem and make suggestions you will confer a favor. No other trees have been grown on this land. The soil is 20 to 40 feet deep. I have grown apples here for twenty years with good results. But these trees are a “sticker.”—GROWER, Ventura.

In the PACIFIC RURAL PRESS of April 4, 1903, and following dates are published a very carefully pre-

pared essay on apple growing in southern California by Mr. Frederick Maskew, which went quite fully into the pollination question and named varieties which the writer believes are suitable pollinizers for the standard commercial varieties like the White Winter Pearmain. Perhaps you may be inclined to graft in some that he mentions in the hope of making your trees bear. The Yellow Newtown Pippin is not in his list, but the Bellefleur is. We would be very slow indeed to sacrifice such trees as you describe on such a deep, rich soil. Our impression is that bearing has been postponed, not by lack of pollination, but by the great vigor of the trees set at such wide distances and upon such deep, rich and moist soil. One thousand feet is not a great distance for a bee, though of course immediate proximity promotes pollination. If the trees had made less vigorous growth they might have borne sooner. We would stop pruning so far as possible, because winter pruning is a constant incitement to greater wood growth, and probably when your trees grow less and feel the condition of maturity in the wood the blossom buds will be stronger and more likely to set fruit. Pollination is only a spur to production when the trees are otherwise in condition to bear. Excessive wood growth will indefinitely postpone bearing in the case of some fruits and it acts to different degrees in that direction with all fruits.

The Anti-Squirrel Campaign.

TO THE EDITOR:—Can you tell me whom to send to to obtain more information in regard to the contagious disease among the squirrels in Contra Costa county spoken of in the PACIFIC RURAL PRESS a few weeks ago? If so, will you please send me the address of the party or parties to whom I may write? I want to get some of the dead squirrels to start the disease in this county.

I am still on the warpath with the squirrels, though I have been sick and have not been doing much lately. The Manteca Squirrel Association gave a dance and supper to raise money to pay the squirrel catchers the bounty, and they cleared \$75 and paid out over \$50 in bounties. So you see the children are working as well as the ladies, though we can't get many of the men to pay any attention to our work, but we are not easily disheartened.—MRS. EVA BOLES, Lathrop.

We are sorry that we cannot give you direct information as to where you can get some of the squirrels infested with the disease which is alleged to prevail in Contra Costa county. We have not yet seen definite statement of the names of the parties. We understand that Dr. N. K. Foster, secretary of the State Board of Health, Sacramento, has the matter under investigation and possibly could give you the information which you desire. No contagious disease for squirrels has been distributed from the University, but there was such distribution by the Pasteur Vaccine Co., who offered for sale a year or two ago a material called “Squirrelin,” which it was expected would do just what is now being reported from Contra Costa. It, of course, remains to be determined what is the exact character of the alleged disease and whether its origin can be traced to the distribution of squirrelin. We are not aware that this undertaking has not been entered upon. In the experience with this squirrelin there seemed to be reason to think that only those squirrels which secured a part of the original infected bait became diseased, and that it did not spread from them to others. This seems to be the case also in the attempts to introduce the disease among rats and rabbits. It does not seem to spread by contact. Finally, as for the Contra Costa disease, it has not yet been fully demonstrated to be a disease at all, and one is still at liberty to conjecture, whether, in fact, there has not been death of some squirrels by starvation, accompanied by migration of those who wished to escape such fate. This would account for the chief fact reported, viz., that the squirrels are much fewer in numbers than formerly.

The Leading Winter Apple.

TO THE EDITOR:—Can you recommend a good winter apple for this locality? The soil is moist sediment. I have a few young trees of the Bellefleur and Winter Pearmain that are very thrifty and vigorous without irrigation.—GROWER, Santa Ana.

The Yellow Newtown Pippin is a standard winter apple in nearly all parts of the State where late varieties do well. The Winesap, Smith's Cider and Esopus Spitzenberg are also satisfactory winter

varieties in different localities, but have no such commercial standing as the Yellow Newtown Pippin. On the moist lands in your part of the State the Missouri Pippin has the lead commercially and stands with the White Winter Pearmain. Judging by its present prominence and acceptability in your markets, the Missouri Pippin should receive your attention.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 5, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

SACRAMENTO VALLEY.

Cool, cloudy weather prevailed during the week and light showers fell in some sections. Conditions were somewhat unfavorable for fruit drying and raisin making, but no serious damage was done by the rain. The first crop of grapes has been nearly all gathered, and the second crop is being picked and sent to the wineries; both crops are reported large and of good quality. Prunes are drying slowly, and the yield in some sections is lighter than expected. Some of the late fruits are still on the trees and ripening slowly, but the greater part of the crop has been secured. Citrus fruits continue in good condition. Seeding of summer-fallow has commenced in some places. Grain, hay and hops are under cover.

COAST AND BAY SECTIONS.

The weather was generally cool and cloudy during the week. Light rain fell in some sections, but no serious damage resulted. Heavy frost is reported in the low lands near Ukiah. Nearly all deciduous fruits have been gathered and most of the crop secured. Prunes are still on the trays in some places and drying is progressing. Grape harvest will not be completed until about the 15th; the yield is reported large and the fruit of unusually good quality. A report from the Santa Clara valley states that prunes, peaches and apricots are of superior quality and pears poor; the yield of peaches and pears is light, prunes and apricots considerably below last year's crop. The apple crop in San Benito county is large, but the quality of the fruit is below average. Walnuts in Sonoma county are dropping badly and the yield will be light. Bean harvest is nearly completed. Hops are gathered and baling is progressing.

SAN JOAQUIN VALLEY.

Partly cloudy and cool weather prevailed during the week, and a light shower fell in most sections Thursday morning, but caused no damage to drying fruit. The damp weather retarded raisin and prune curing to some extent. A large portion of the first crop of raisins is cured and being moved to the packing houses. The second crop of raisins will be light. Large quantities of grapes are being shipped to Eastern markets, and the wineries are running to their full capacity. Prune drying is completed in many localities. Oranges are developing rapidly and are coloring in the Porterville district, where it is expected to begin shipping about the 25th. Large quantities of potatoes are being harvested in San Joaquin county. Grain sowing on summer-fallow has commenced in some places. Dry feed is scarce, but stock are healthy and in good condition.

SOUTHERN CALIFORNIA.

Generally cloudy and cool weather prevailed most of the week, and light rain fell in some sections. Some damage has been done to beans and unprotected grain and hay by the recent rains, but as ample warnings were given there was no material injury to raisins. Fruit drying and raisin making are progressing slowly, and warm clear weather is needed. The raisin crop will be large and of superior quality. Oranges are in excellent condition. Walnut picking is progressing; the nuts are of very good quality, but the yield is light. Beans and sugar beets are being harvested. Late potatoes are doing well.

EUREKA SUMMARY.—Rain is needed to start the grass, as cattle are in poor condition. Apple picking and potato digging are in progress. Several tons of peas raised in the vicinity of Arcata were recently shipped to San Francisco. Some farmers are sowing winter oats.

LOS ANGELES SUMMARY.—Grain thrashing is nearly finished; a good crop. Bean thrashing in full headway; good yield. Last week's rain checked fruit drying, and some prunes molded. Peaches are mostly gathered. Potatoes look well.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 7, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date....	Maximum Temperature for the Week...	Minimum Temperature for the Week...
Eureka.....	..	..	.41	2 18	78	46
Red Bluff.....	.24	.24	T	.98	82	44
Sacramento.....	.00	1.0	T	.57	68	52
San Francisco.....	.00	T	T	.63	82	46
Fresno.....	.00	.00	T	.41	82	44
Independence.....	.00	T	.30	.33	84	44
San Luis Obispo.....	.00	T	T	.74	81	50
Los Angeles.....	.00	.43	T	.29	74	53
San Diego.....	.06	.16	.92	.24	92	52
Yuma.....	.00	.05	.11	.72		



## AGRICULTURAL SCIENCE.

### Simon Simple's Views on Fertilizers.

Written for the PACIFIC RURAL PRESS by B. and R.

SMITH—Hum! an ominous looking envelope. Yes, I thought as much—a fertilizer bill from what-you-may-call-him. This buying of fertilizers is a deucedly expensive luxury, and this is the third season I sink hard-earned dollars in a profitless attempt to improve my impoverished lands. Pshaw! I begin to think I'm a fool, the dupe of the fertilizer agent's blarney—of those agents who fatten on the lean earnings of me and my sorry compeers.

But let me see what they say. That is it, six tons of "No. 20 fruit fertilizer," containing:

Ammonia, 4-5%.  
Phosphoric acid, 9-12%.  
Potash, 8-10%.

That sounds well! Ammonia, that is the stuff that makes wood—trees don't need much of that. Phosphoric acid, what the old Harry is that good for? Let us see, yes, potash makes fruit—I guess we need plenty of that. Dear! \$204 to pay.

SIMPLE—Unfamiliar handwriting, very! Let us see what he says:

"Dear Sir:—'Somewhat more than a year ago I had the pleasure of meeting you at the Fruit Growers' Convention, and during the past season, relying on the old adage that nothing venture nothing have, I made bold to follow your advice as regards manuring, and tested comparatively the 'complete fertilizer' I generally use and the simple manures (nitrate of soda, bone black superphosphate and potash) you mentioned to me. I applied in each case the same amounts of plant food, but always obtained the best results with the latter.' Excellent! Very good! Here we have an intelligent man who believes what one tells him, but still does not neglect to demonstrate palpably and conclusively that in his soil it is as was predicted.

Ah, were there only more like him! But, alas! routine and empiricism hold the mind of the cultivator in a deplorable subjection. Science is the contempt of the prosperous, the savior of the indigent. But is that not Smith I see yonder with clouded face and dejected air?

SMITH—Why if that is not Simple, the very man that at this moment I most desire to see.

SIMPLE—Halloo, Smith, old fellow. A little out of sorts this morning, eh! A bill to pay, I warrant, and the crop lighter than expected.

SMITH—A short crop and a fertilizer bill to meet. Darn it, fertilizing doesn't pay.

SIMPLE—Fertilizing doesn't pay! Nonsense, man.

SMITH—Crush me! but I have some doubts as to the value of that fertilizer they send me. What do you think of it?

SIMPLE—Peuh! complete fertilizers; I wouldn't use one; they are, even the very best, uneconomical. You have some doubts? Then let us see: Your fertilizer contains, taking the minimum percentages as the average:

Nitrogen, 3.28%.  
Phosphoric acid, 9%.  
Potash, 8%.

Now nitrogen may be obtained for 13.419 cents a pound, phosphoric acid for 6.66 cents a pound, and potash for 5.151 cents a pound, which gives us as the value of your manure per ton \$29.05, or \$4.95 less than you pay. This is not a neglectable sum, but I shall show you that still further economy can be made. But first let us examine the value of another "complete fertilizer," whose content in plant foods I happen to remember. It is made by the same company as yours and sells for \$33.50 a ton. This fertilizer contains:

Nitrogen, 2.87%.  
Phosphoric acid, 8%.  
Potash, 7%.

Calculating the value of this fertilizer as above, we obtain as its value per ton, \$25.58, that is \$7.92 less than its actual cost. In the great majority of cases that have come to my notice, the "complete fertilizer" is worth about \$10 less than it costs.

To return: I was going to say that a still further economy could be realized thus: Nitrate of soda at 15% nitrogen, bone black superphosphate at 15% phosphoric acid, and sulphate of potash at 50% potash, will give the same amount of plant foods as 100 pounds of your "complete fertilizer" when employed at the rate of:

Nitrate of soda, 21.2 pounds.  
Bone black superphosphate, 60 pounds.  
Sulphate of potash, 16 pounds.

Which mixed together gives us 97.2 pounds instead of 100 pounds. This difference of 2.8 pounds amounts to 56 pounds on every ton and, when we consider that the freight charges are somewhat heavy, the sum saved, even in moderate shipments, is quite worth considering. Then I would have you understand that your "complete fertilizer" is of exceptional quality. In the example of a complete fertilizer I gave to you, the difference is very much

greater and amounts to 13.46 pounds in every 100. That is, in buying one ton of this manure, you pay freight on 269.2 pounds without so much as a good reason for doing so.

SMITH—But, friend Simple, allowing all you say to be true, the fertilizer manufacturers lay particular stress on the mixing of manures and consider that the results obtained by the use of mechanically mixed manures abundantly offset the slight difference in cost. To me this view of the matter has some force.

SIMPLE—But why mix the fertilizer materials at all? A more even distribution is thereby obtained, you will say. But I shall show you that nothing is to prevent an even distribution without mixing. This argument of the fertilizer companies has no scientific or empirical justification. No experiments, and I have tried not a few myself, have proved this; and, as you will see in a minute, there is, a priori, no reason, when one examines the question closely, why they would or should.

Fertilizers are applied to the land in one of two ways: they are either broadcasted or drilled. As orchardists, you and I are alone concerned with the former method, though our viticultural friends very effectively apply their manures in furrows (a process akin to drilling) run between the rows. Fertilizers, then, are broadcasted during the winter and are plowed under at the convenience of the grower, from January to March.

The elements of plant food are only distributed evenly in complete fertilization when factory mixed, say the fertilizer companies, whose agents point out the trouble of perfect mixing on the farm, the difficulties and technique required to buy advantageously the separate plant foods and, crushing argument, the doubt that is bound to assail you as to how much of this and how much of that to apply to obtain the best results. Why waste precious hours in consultation with your neighbors and infernal letter writing when one of their "complete fertilizers," the fruit of years of study, is to be had for a mere trifle and without the worry of thought and reading!

You recognize the arguments of your friend the agent. I shall then attempt to briefly refute them, and in order:

Primo: Fertilizers need not be mixed to be broadcasted over the land. Each component of the fertilizers may be distributed separately, and the question becomes then, not one of even distribution, but one of economy of labor. We have then to consider whether three light broadcastings are more expensive than one heavy one. This point is a ticklish one, and I foresee arguments both for and against it. And did fertilization consist in applying nitrates, phosphates and potash salts at one and the same time, the manufacturers of complete fertilizers would probably convince you in the twinkling of an eye that I and the legion like me were extravagant fools; but, fortunately for us, the art of fertilization, which has been for years past inseparable from practice, consists in applying the phosphates, potassium salts and nitrates in different seasons of the year.

Secundo: The difficulties in buying the required plant foods are overcome with a little thought and patience. The first thing to do is to price your articles. You proceed as follows: From the advertisement columns of the agricultural papers you obtain the addresses of various manure vendors, and you write them to send you their price list and also the percentages of plant food their fertilizers contain.

You find, for instance, that nitrate of soda containing 15.5% nitrogen is quoted \$42.00 a ton, or \$2.10 a 100 pounds. Nitrogen being the only element of value in nitrate of soda, you may at once say that 15.5 pounds of nitrogen are worth \$2.10, that is, one pound nitrogen is worth 13.419 cents.

By calculations similar to the above you may find that the nitrogen of sulphate of ammonia, containing 18.9% nitrogen, costs 18.479 cents a pound; that in sulphate of potash, 52.07% potash, the potash costs 5.185 cents a pound; that in bone black superphosphate, containing 15% phosphoric acid, the phosphoric acid is worth 6.66 cents a pound, etc.

Having computed the values of the unit of nitrogen, phosphoric acid and potash from the memoranda of the various firms, the choice of which commercial fertilizers to buy and from whom will depend, all other things being equal, on the grade of the products offered and their absolute value. Examples (I speak of course generally): Nitrate of soda should be preferred to sulphate of ammonia when the unit of nitrogen costs the same in both, and when cheaper it goes without saying sulphate of potash should be preferred to the muriate, even though the unit value of the potash be a little higher in the former than in the latter.

In the case of the phosphates you must distinguish those that contain soluble phosphates from those whose phosphates are inert. No absolute rule exists as to when the former are to be used, and when the latter. You must determine by direct experiment which of the two is most profitable in your case.

The soluble phosphates are known as superphosphates and double superphosphates, and their phosphoric acid is worth about 1.5 cents more than that of the inert phosphates, of which bone meal and Thomas slag are the most generally known examples.

SMITH—Then you can give me no directions when

to use one kind of phosphate and when the other. How encouraging!

SIMPLE—On this point a positive answer is impossible: there occurs every day too many exceptions to the rule, which, however, may be roughly stated as follows: Apply superphosphates to limy and loamy soils, Thomas slag to granitic soils, acid lands and soils abundantly provided with vegetable decaying matter; bone meal is used to most advantage on the same soils as the slag, though it is generally inferior to it in its action, and altogether so on acid soils.

Hold a minute! It had almost slipped my memory; a warning here is necessary. Never apply superphosphates to acid lands, and only with circumspection to soils full of humus.

SMITH—You are not too discouraging; I know at least what not to do. But pray tell me, I have a notion how to buy fertilizer, but I'll be hanged if I know how to apply it.

SIMPLE—How to apply fertilizers, eh! We are in a bit of a maze now, all right, and no string to guide us out, eh! Smith. To apply fertilizers properly you must know the needs of the particular crops you are growing, and this is easily obtained from most any book on manures or from an experiment station chemist, who will look the matter up for you. Let me see if I can remember what some of the fruits contain. Let me see, what do you grow? Prunes, pears and apricots. I have it, prunes contain:

Nitrogen, 0.178%.  
Phosphoric acid, 0.07%.  
Potash, 0.31%.  
Pears are not as exhausting a crop; they contain:  
Nitrogen, 0.09%.  
Phosphoric acid, 0.03%.  
Potash, 0.08%.  
Apricots contain:  
Nitrogen, 0.19%.  
Phosphoric acid, 0.06%.  
Potash, 0.29%.

You notice that these fruits remove but little from the soil and do not require, in lands that have not been run down, much yearly outlay in manure.

Amongst agriculturists, as you probably know, the practice is to return to the soil double the amount of plant food that has been taken from it, and for a number of years I have followed the same practice in fertilizing my orchard. The reason why the general practice is to return to the soil double the amount of plant food removed is to make sure that the roots will have at their disposal at least the resources of the preceding year. This is not the only reason, however. Experiment has shown me that in my soil and methods of cultivation to return double the amount of plant food that has been removed is the most economical and profitable. Not that in your case returning two and a half to three times the amount removed might not easily prove the most economical and profitable. At least such is the case in the poor shallow soils of the Baker place.

However this may be, the practice I have just outlined is profitably modified both as regards the plant and one's pocket when it comes to applying nitrogen. In the application of nitrogen more depends on your judgment. To you it is of little importance except as a guide how much nitrogen the plant has removed, but of prime importance how much nitrogen the plant needs. This you obtain indirectly by observation. The presence of sufficient nitrogen in the soil is indicated, all other conditions for growth being in your estimation normal, by:

1. The uniform swelling of the buds and bursting into flower and leaf.
2. The healthy, vigorous leaf growth and wood growth during the spring months.
3. The fresh and bright appearance of the foliage during the summer months and the ripening of the fruit.
4. The healthy and uniform ripening of the fruit.
5. Excess of nitrogen is shown by unusual prolongation of growth, and non-formation of flower buds.

When plants show any departure from the above, except in the case last mentioned, then nitrogenous manures should be applied from 50 to 300 pounds per acre for bearing trees, and according as necessity may direct. In general, fifty pounds an acre may be regarded as the maintenance allowance, but is subject to variation at your discretion.

One might compare the nitrogenous manures with more analogy than truth to our puddings and pastries: a certain and variable amount with each individual has more excellent effects; too little is neither here nor there, and too much means a sacrifice—an indigestion with us, a loss of fruit in trees.

SMITH—If you say true, then the invariable amount of nitrogen I have been supplying in this "complete fertilizer" may have been so much money thrown away.

SIMPLE—Exactly so, for nitrates are soluble, and what is not used up by the plants becomes lost in the underdrainage.

SMITH—That reminds me that the firm I buy my complete fertilizer from recommended me to broadcast it and plow it under as soon as possible. When should the manures you speak of be spread on the land?

SIMPLE—All phosphates should be scattered as



soon as possible in the autumn, winter or early spring, and immediately turned under as deeply as convenient.

The potash salts, which all dissolve readily, may in all cases be broadcasted and allowed to soak in with the rains. They may be applied to clayey soils at the same time as the phosphates, but in leachy soils a few weeks before growth, just before or with the nitrates.

The nitrates (nitrate of soda, nitrate of potash) are distributed just before the awakening of vegetation. They are very soluble and dissolve in the slightest rain.

Ammonia salts (sulphate of ammonia) should be applied about four weeks before vegetation begins, and only on loams and light, well aerated soils.

As I have just said, it sometimes becomes advantageous to spread two manures at the same time. This you might, for several reasons, find more convenient to perform in a single operation. If you should wish to do this, I must warn you that certain manures cannot be mixed together. For instance, you can not mix superphosphates with slag or bone meal; slag and ammonia salts. But you can mix without danger superphosphates and potash salts, slag and potash salts, potash salts and ammonia salts, nitrates and potash salts.

SMITH—Alas! if I had only run across you three weeks ago I'll be hanged if I shouldn't have tried the fertilizing method you preconize. But I'm fixed for this year and must be content to ruminate over what you have said and come and see you when I have gathered together a set of questions.

SIMPLE—You shall be very welcome, friend Smith, and a 10-mile drive is not to frighten such as you.

## THE VINEYARD.

### Mr. Swett's Notes on Resistant Roots.

In reference to inquiries by Mr. Leonard Coates, Mr. Frank T. Swett, the well known grower of Contra Costa county, has given the following notes upon resistant roots: The vineyards on resistant stock in this locality are, on the whole, doing well, although there are exceptions. It is not difficult to plant the wrong stock on certain soils, nor to graft a variety having poor affinity. The latter is particularly the case with table grapes. The area of vineyard being killed out with phylloxera is being promptly replanted all through this county. Rupestris St. George thrives on nearly all of our Contra Costa soils, with the exception of:

1. Compact clays and adobes that become dry in August and September.
2. Shallow soils, where the bedrock is close to the surface.
3. Wet spots where drainage is poor.

On the whole, St. George is a very vigorous, hardy stock, satisfactory with almost all varieties of wine grapes that we have so far tried; as to its suitability for some varieties of table grapes, it will take some time to determine. There seems to be some lack of affinity between Emperor, for instance, and Rupestris St. George. The unions are good and strong, no danger of breaking off; but, on dry soils, the stock does not furnish sufficient sap during some extremely hot spells in the fall to keep the large, loose-textured Emperor leaves from sun-burning. Emperor is one of our most sensitive and delicate vines, in spite of its rank growth.

Even on its own root, it fails to succeed in many parts of the State where Tokay, a hardier vine, is perfectly successful. Riparia Gloire de Montpellier, on the few spots in the Alhambra valley which are mellow, moist and rich, succeeds admirably. But most of our soil is too compact and dries out too much in the fall to make the planting of this admirable, but moisture-loving, variety a safe proposition. We have in the Alhambra valley no facilities for irrigation; the water level is from 20 to 35 feet below the surface, and our rainfall is only about one-half that of northern Napa and Sonoma counties.

RIPARIA X RUPESTRIS HYBRIDS.—We are testing the 3309, the 3306 and the 101-14. They are promising and bid fair to prove themselves possessed of a combination of the best qualities of both the Rupestris and the Riparia, with some of the faults eliminated. It takes some time to test varieties, however, and we are not far enough along with these to say much about them.

RIPARIA X CORDIFOLIA-RUPESTRIS.—This is a combination of three species originated about fifteen years ago in France. It seems to have a wide range of adaption, to stand the hottest weather and the driest soil better than almost any other variety of stock. Even on dry adobe, where cracks form in the summer in spite of diligent attempts at cultivation, its leaves remain a dark, rich green, showing its drought-resisting quality. From its Cordifolia percentage it derives its fleshy, strong roots, that penetrate through clay where St. George or Riparia roots come to a standstill.

The Riparia parentage gives it the property of im-

parting to grafts on it heavy bearing and early ripening. We are testing two related varieties with Cordifolia stock as a basis, viz: The Riparia x Cordifolia 125-1 and Cordifolia x Rupestris No. 1. They have only recently been imported, and it is therefore too soon to say anything about them, except that they are vigorous growers and seem worthy of trial, experimentally, on clay soils or on compact cement soils.

With a view of determining what stock in our region is best for Emperor, I have grafted it transversely across an experimental plot containing twenty-two varieties of stock, so that I have two vines of Emperor on each stock. In a year or two the trial should give some preliminary hints as to what stock to use. We know that Emperor thrives and bears well on Riparia Gloire de Montpellier, and if we had soil adapted to Riparia in sufficient area in this locality, it might not be necessary to look any farther for a stock. But, as explained before, much of our soil is too clayey and compact for Riparia, and we must try to find other stocks with equally good affinity. Perhaps the Franco-American hybrids will help us out.

## THE DAIRY.

### Skimming Stations and Farm Separators.

By E. H. HAGEMAN at California Creamery Operators' Convention.

Skimming stations have never been thought of very much importance in their relation to the creamery, which seems to me should not be so when we consider that some of the most important work for the welfare of the creamery is done at the skimming station, such as taking and sampling the milk, running the separator and caring for the machinery, and last, but not least, it falls upon the station operator to keep the patrons satisfied and do the missionary work which otherwise is done at the creamery. Since the advent of the farm separator it seems as though the skimming station is destined to become a back number as the former has cut up the milk supply so that in most cases it makes it unprofitable to a creamery to continue skimming stations. As a rule skimming stations increase the cost of manufacture, and unless at least 5000 pounds of milk is received the station is a drawback and does not pay. We receive better cream from the milk that is skimmed at the station from which we can make better butter than we do from farm separator cream, because the cream is made and skimmed uniform by one machine all under the same condition and the milk must come every morning, but with the farm separator, the farmer makes his own cream skimmed with twenty or more different separators under the same number of different conditions.

But it cost more to operate the skimming stations and under the present system of marketing butter almost regardless of quality we do not get any more for the butter made from the uniform cream from the skimming station than we do for that made from the farm separator cream. Thus we see that the farm separator man gets just as much for his cream as the one who takes his milk to the skimming station, and with the advantage of having better skim milk and having less bulk to haul to the station, and then with the increased expense of running the skimming station, why should we continue to operate them? But if the butter is sold strictly on grade and keeping quality, then it seems to me it is up to the dairyman to deliver a better grade of cream, otherwise the prices received for butter may be low enough to more than offset the advantages of the farm separator and the skimming station and skimming at the creamery may again come into prominence. I hope the education of the dairymen will come in this way even if grading at the creamery will have to be resorted to, paying full price for nice sweet cream, from 1 cent to 2 cents less for cream too sour to pasteurize, and 3 to 4 cents less for what you might call rotten cream. I believe the skimming station might be done away with, with profit both to dairymen and creamery if done in the right way without hurting the quality of the butter.

Probably the greatest obstacle to the successful operation of skimming stations lies in the question of getting the right kind of help to run the station, for it takes a good experienced man to handle the machinery, and build up the business among the patrons. Such a man must also be an expert at the use of the Babcock test and in fact be capable of managing a good sized business. Now to get a man of such qualifications means that he will be an all-round creameryman and will demand the wages of a person with such qualifications, whether the station gives him sufficient work to keep him busy or not. He will not accept small wages, or if he does it will only be until a position in a creamery is offered to him at better wages. On the other hand, a man who is willing to work for small wages such as a skimming station is willing to pay, is in too many cases incompetent to handle its business. This seems to be the greatest drawback to skimming stations.

Skimming stations then must run to full capacity if profitable to the creamery so they can be left in

charge of experienced men who can give all their attention to the work, and who understands every detail of testing and other work connected with it, as the former especially is a very important work in the hot valleys. Skimming stations offer the same advantages to the community of dairymen that a creamery does. The money is distributed just the same among patrons and it enhances the value of the surrounding land and it seems too bad that they do not appreciate the worth of a skimming station more than they do in some localities and give them support that will run them to full capacity.

## FORESTRY.

### Other Fine Trees.

TO THE EDITOR:—After reading the article in the PACIFIC RURAL PRESS of Aug. 22nd, and on drawing the tape around our own white oak (*Quercus lobata*), we were somewhat elated to find our tree the larger one, but were crestfallen, when the issue of Sept. 19th came, to learn that the Hooker oak at Chico had grown 3 feet. Well, we live in southern California, where there is not much rain, especially in the last ten years, and the "Hooker" and "Beauty of Tulare" have grown better than our trees. However, we have a richer soil than the north, and it is a consolation to know that our tree is second best. The dimensions are as follows: Circumference, 20 feet 6 inches; expanse of limbs north and south, 120 feet; height, approximated at 130 feet, being much the tallest oak of any species we have ever seen on the Pacific coast. This tree grows in the Upper Ojai valley, Ventura county, in a black loam nearly like adobe, this resting on a lighter colored soil, which in turn rests on a sandstone bedrock of unknown thickness, being a Miocene formation. This tree has a trunk 16 feet long to the first limb, and was crowded on one side by another giant oak, which no doubt induced it to grow so very tall.

You will, now, kindly allow us to give the dimensions of another monarch of the forest of the same genus, but different species. It is a coast live oak (*Quercus agrifolia*), sometimes printed in journals as "creeping oak." The measurements are as follows: Circumference of trunk 5 feet from ground, 20 feet 2 inches; two limbs, nearly equal in size, 11 feet in circumference; expanse of limbs, all directions, 105 feet. This tree is strong, healthy and vigorous, with a dark green foliage, bearing acorns freely, and growing rapidly, while another tree not far distant has a spread of limbs of 120 feet and is nearly as large as the above, but, though green and growing slowly, is on the decline, its limbs creeping on the ground in every direction. The above live oaks grow on a limestone or adobe soil, on benches on the north side of Sulphur mountain, and there is a free blending of shale or gravel in this soil, and it has proved to be an ideal soil for most any kind of fruit trees. These latter have stood the drouth in the last eight or ten years better than fruit trees on the coast in a dark, sandy loam.

Now, as we are measuring trees, allow us to give just one more—of a different genus and species. This is a native walnut, or California black walnut (*Juglans Californica*). Its dimensions are as follows: Circumference, 11 feet 5 inches; expanse in every direction about equal, being 92 feet; all the lower limbs creeping on the ground; tree growing in a dark, deep and very rich soil on a northern slope. This tree bears enormous quantities of nuts each year.

H. J. DENNISON.  
Nordhoff, Cal.

## FRUIT PRESERVATION.

### A Home Made Steam Drier.

TO THE EDITOR:—According to my promise last January, I will give you a description of my evaporator that I told you I would erect on principles and lines after my own ideas. I will here say that the work this evaporator is now doing is far ahead of anything I had expected.

My house is built for 6-foot trays. My building is inside measure 30 feet 2 inches by 6 feet 2 inches, and 7 feet high. It is ceiled with 4-inch redwood ceiling and has two 3 foot 1 inch by 7 foot doors at one end. A car track runs in the center the entire length; also a coil of 1½-inch iron pipe for steam; also a 3-inch heavy galvanized iron pipe for air tubes. The track will hold five cars, and each car will hold fifty trays (two tiers of twenty-five trays each), or 250 trays to fill the house.

The galvanized tubes have a ½-inch hole at every 4 inches: one tube in the center of the building at the top end and one at the bottom.

I have a Detroit blower, 16 inches diameter, 5000 revolution capacity. This blower draws the air from the top of the evaporator and drives it under the cars the entire length of the building, giving a perfect circulation up through the fruit.

I have a 4 H. P. high speed automatic engine and



a 6 H. P. upright boiler. The steam from the boiler goes direct to the evaporator, and passes through 216 feet of 1½-inch pipe to the engine; or, in other words, the same steam that runs the engine heats the evaporator. At forty pounds pressure the temperature is 140° F., or at sixty pounds pressure 150° F. I dry in three and a half hours, and do it better than I can in forty-eight hours with the trays lying on the drying grounds. There is no moldy fruit on the top trays, and all trays are just alike. My evaporator is built just under a long shed, the shed posts making one side.

Now for the cost of building and equipment:

Lumber.....	\$32.00
Nails.....	1.00
Iron pipe.....	24.20
Galvanized tubing.....	19.50
Pipe fittings, complete.....	10.00
Blower.....	18.00
Engine.....	80.50
Boiler.....	50.00
Freight on above.....	10.50
Cement.....	4.00
Work.....	25.00
Five cars and freight.....	35.00

Total cost.....\$309.70

I can dry in sixty hours 14,500 pounds, or in twenty-four hours the same lot of fruit if put in when half dry, or if it only needs two days outside I can dry it in three and a half hours. Had I made my building 60 feet instead of 30 feet, and put in 500 trays, or ten cars instead of five, the same steam and same blower would do the work.

For the benefit of the general public, I would say that any one having a 10 to 16 H. P. boiler could easily erect an evaporator of fifteen to twenty-five ton capacity for not to exceed \$400. I use the regular field trays. After the house is filled with fruit no more attention is given to the fruit until the allotted time is passed, and then my fruit is dry. Of course, a close watch is kept on the boiler and engine as to fire, water and oil. At forty pounds pressure my engine makes 425 revolutions, and the boiler makes nine revolutions to one of engine, or about 3825 per minute. This blower moves one cubic foot of air every three revolutions, or the entire air that the building contains every three minutes.

J. LUTHER BOWERS.

Monticello, Napa Co., Cal.

## THE IRRIGATOR.

### President Roosevelt on National Irrigation.

A telegram from PRESIDENT ROOSEVELT to the National Irrigation Congress at Ogden.

The passage of the National Irrigation law was one of the greatest steps not only in the forward progress of the States, but to that of all mankind.

It was the beginning of an achievement so great that we hesitate to predict the outcome, but it was only the beginning. Now that the law is an accomplished fact that must be given effect. To that end the reclamation service organized under the national irrigation projects energetically in each of the thirteen States and three Territories named in the act. Some of the projects which promised well at first are found on careful study to be impracticable, either because of scanty water supply or of great cost, others must await higher values in land, while still others stand the test and are ready for immediate construction.

**BUILDING GREAT WORKS.**—The feasible projects are always large and costly because private enterprise has already seized upon the smaller and less expensive ones, leaving to the Government the great works which are to be essentially a part in bringing the nation to its full development. Great care and highest engineering skill are required to plan and build such works, which are among the most difficult undertakings of mankind. They must be built for permanence and safety, for they are to last and spread prosperity for centuries.

**ENGINEERS AT WORK.**—To design and build such works a body of engineers of the highest character has been brought together in the reclamation service, for only men impartially selected for capacity alone are capable of creating these great structures. Merit must govern, not only in the selection of men but still more in the selection of the projects. Every reclamation project selected for construction must possess the qualities which commend it as a national undertaking, certain to reclaim large tracts of arid land and to support in well being a dense and vigorous population.

**MANY DISAPPOINTMENTS.**—Vast though the benefits of the reclamation law, there will be many disappointments, which necessarily await both the advocate of special projects and the men whose desire for

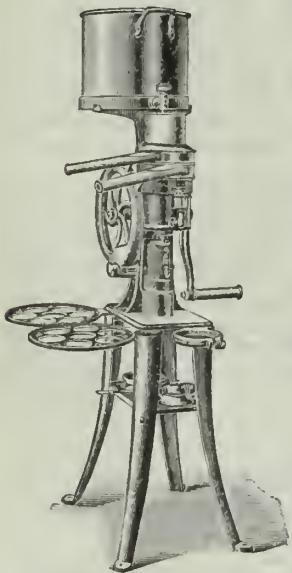
accomplished results outruns the slow and steady development of these great undertakings. It should be borne in mind that a broad survey of all possible projects gives the conception of their relative value and that a work of prime importance to one group of men may seem less desirable in the light of our wider knowledge. Nor is it wise in large affairs to begin construction first and elaborate details afterwards. Each important point must be carefully studied in advance, and the whole plan tested and approved before work can begin.

**MUST PROCEED CAUTIOUSLY.**—Yet if we proceed both cautiously and persistently under this beneficent law we may confidently expect the largest possible development of our arid lands and their settlement by industrious, prosperous, self-respecting men and women, who will exchange the products of irrigated agriculture for the products of mills and factories throughout the United States. Communities flourishing in what is now the desert will take their places among the strongest pillars in our commonwealth.

**AS TO FORESTRY.**—The irrigation development of the arid West cannot stand alone. Forestry is the companion and support of irrigation. Without forestry irrigation must fail. Permanent irrigation development and forest destruction cannot exist together. Never forget that the forest reserve policy of the national government means the use of the forest reserves. There is little profit in destruction compared with use. The settlement of the great arid West by the makers of homes is the central object both of the irrigation and the forest policy of the United States.

**PRESENT AS WELL AS FUTURE.**—In forestry, as in irrigation, the immediate private interests of some individual must occasionally yield to their permanent advantage, which is the public good. The benefits of forestry are not only for the future, but for the present. The forest reserves are for all the people, but first for the people in the immediate neighborhood for whom supplies of wood and water are among the first necessities of life. With the wiser and more skillful management of the reserves by trained men, the greater obviously will their usefulness be to the public. We must never allow our chagrin at temporary defeat and difficulties in the management of the forest reserves to blind us to the absolute necessity of these reserves to the people of the West.

## "Simplex" Separator.



The most **EXACT MILK SKIMMER** ever made. It is **SIMPLEST, FASTEST, LIGHTEST RUNNING** and affords **MOST BUTTER-PRODUCING MATERIAL** under all conditions.

**DON'T** take our word for it; just ask any of the **MANY SATISFIED** users of this **HIGH GRADE SEPARATOR** as to what they think of them.

Write for printed matter and catalogs.

**BAKER & HAMILTON,**

SOLE PACIFIC COAST AGENTS,

**SAN FRANCISCO, CAL.**

## National Wood Pipe Company

(INCORPORATED).

PHONE, SOUTH 140.

MANUFACTURERS OF

## REDWOOD WATER PIPE

From 3-in. to 10-ft. in diameter for

**Water Works,  
Mining and  
Irrigation Plants.**



**CHEAPER, STRONGER AND MORE DURABLE**

than riveted iron or steel pipe. Requires no expert to lay and can be easily taken up and relaid, as it is absolutely indestructible. All pipe sold under an absolute guarantee. We contract for complete irrigation systems. Illustrated catalogue sent on application.

**NATIONAL WOOD PIPE COMPANY,** 6th and Mateo Sts., LOS ANGELES.  
301 Market St., SAN FRANCISCO.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000

**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 18

**FRESNO, CAL.**

## LARGEST CITRUS NURSERIES IN THE WORLD

Trees True to Name; Standard Varieties; Catalogue Free.

R. M. TEAGUE

**SAN DIMAS CITRUS NURSERIES** San Dimas, Cal.



ONE OF OUR 100,000 BLOCKS OF CITRUS NURSERY TREES.

### CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,** 26 Montgomery St., San Francisco.

G 325 Dearborn St., Chicago.

G 338 So. Broadway, Los Angeles.

Telephone Main 199.

**Blake, Moffitt & Towne.**

**DEALERS IN PAPER,**

Nos. 55-57-59-61 First St., San Francisco, Cal.

**BLAKE, MOFFITT & TOWNE,** Los Angeles.

**BLAKE, MCFALL & CO.** Portland, Or.



## Agricultural Review.

### ALAMEDA.

**TOMATO SHIPMENTS.**—Oakland Enquirer: The tomato men at Mt. Eden have a large force employed to pick and ship tomatoes. They are realizing very large crops this year, from 50 to 100 tons being shipped daily to San Francisco.

**LARGE DAIRIES.**—Decoto will soon have two large dairies. Jackson & Granger of Alvarado have leased the Anderson place of the Patterson estate and will take possession on the 15th inst. They expect to keep between 250 and 300 cows.

### BUTTE.

**ACTIVITY AT THE BIDWELL DRY YARDS.**—Chico Enterprise: Col. C. C. Royce has put in operation the new drier built this season and has had it going night and day the past week. The prunes are being picked very fast and the drier is not of sufficient capacity to handle the full crop, consequently the yards are being filled every day with the surplus that cannot be handled with the drier. The picking will probably be finished in two weeks. The dried product is grading a little higher this season and the output will not fall far short of the 1902 crop.

### FRESNO.

**SECOND CROP GRAPES.**—Republican: As a result of a conference between the directors of the Raisin Growers' Association and George R. Beveridge of the California Wine Association, the latter has agreed to pay \$10 a ton for wine grapes, the price fixed by the raisin directors. The Wine Association had previously fixed the price at \$8 per ton. The figure agreed upon is for second crop Muscat grapes, testing 24% sugar, or 50 cents less per ton for each 1% less than that amount, on the following terms: Half cash, to be paid twice a month on deliveries; the remaining half on April 1, 1904. This money will be distributed at the office of the California Raisin Growers' Association without charge. This offer is open to all growers (who have signed contracts with the association) not to exceed in the aggregate 20,000 tons.

### GLENN.

**MULES BRING HIGH PRICES.**—Bee: The sale at the J. R. Talbot ranch last week was attended by people from all over northern California and was unusually successful. Mules brought high prices, the figures ranging from \$300 upwards per span. One span of these animals was sold for \$460.

### KINGS.

**A GREAT SUNFLOWER.**—Hanford Sentinel: Jack Adams raises sunflowers for his chickens, the seeds being very fine for feed for the birds, and he brought in a head to-day that measured 53 inches in circumference and is filled with seeds that are as large as a kernel of good dent corn.

### MONTEREY.

**A PROFITABLE INVESTMENT.**—Salinas Index: The apples from the O. H. Builene orchard, which were sold early in the season to M. N. Lettunich, who resold them to G. W. Sill of Watsonville, are being shipped to Watsonville, where they will be packed and shipped abroad. They are of the four-tier variety and are fancy shipping apples. It is estimated that there will be about 10,000 boxes, and the minimum figure for their value is fixed at \$8500. The orchard is young and takes up a space of a fraction less than twenty acres.

### ORANGE.

**FATTENING CATTLE ON BEET PULP.**—Anaheim Gazette: F. M. Hildebrandt of Chino is importing New Mexico cattle and fattening them on beet pulp. Recently he leased the Koster and Binder ranches in Sequel canyon and will fatten young cattle thereon. Mr. Hildebrandt has just returned from a trip to Old Mexico, where he went to purchase cattle. He has leased a tract at Imperial and will fatten a trainload of hogs at that point.

**CELERY AT SANTA ANA.**—An area of 2200 acres has been set to celery in the peatlands this season, and the output is expected to be between 1500 and 1800 carloads. Last year's output was 1200 carloads, nearly all of which was shipped East.

### SAN JOAQUIN.

**FINE BUNCH OF GRAPES.**—Lodi Herald: The receipt is noted of a magnificent bunch of grapes from the M. P. Steln Co.'s vineyard, about 1 mile from town, on the Woodbridge road. The cluster was about 1 foot in length and 16 inches in circumference, and weighed 3½ pounds. The grapes were of the Black Prince variety and were large and luscious.

### SAN LUIS OBISPO.

**SAMPLE MELON.**—Tribune: A water-

melon 42 inches in circumference and weighing fifty or sixty pounds was received from Paso Robles last week by the Board of Trade. It is not of a giant variety, but is a smooth, nice melon. It will be sliced for preservation.

### SANTA CRUZ.

**ABOUT APPLES.**—Watsonville Pajaronian: The apple shipments from Watsonville yesterday amounted to eight carloads. This brings the season's shipments to date up to 176 carloads. The total shipments up to this date last year amounted to 137 carloads. At an even date in 1901, 130 carloads had been sent out. Newtown Pippin apples are dropping from the trees in this valley in considerable quantities lately. There are so many apples on the trees that they are crowding each other off. The stems are not of sufficient strength to support their burden of fruit. Pajaro apples are finding a ready sale in Europe at good prices. The European shipments of apples from this locality is going to be heavy. The Prunedale district will furnish no less than 50,000 boxes of marketable apples this season.

### SHASTA.

**SHORT HOP CROP.**—Free Press: The hop crop of Shasta county is about half what it usually is. It is claimed that there is no accredited reason for the shortness of the crop. Some years the crops are heavy, some years light. This happens to be one of the latter. While the quantity is light, however, the quality is said to be excellent.

**A BIG LOT OF PRUNES.**—News: Stice & Hepburn of Anderson have purchased over 1000 tons of prunes in the Anderson country, which will be packed in the Anderson packing house.

### SOLANO.

**MONEY IN ALMONDS.**—Courier: Mrs. M. A. Miles of Suisun valley received \$1147 for the almonds from 230 I X L trees.

### SONOMA.

**POULTRY ASSOCIATION.**—Santa Rosa Republican: At the last regular weekly meeting of the Santa Rosa Poultry Association the members changed the name to the Sonoma County Poultry Association. The officers elected are: Charles Gillett, president; James Cahill, secretary; W. J. Dillard, treasurer. Another association is being organized with other members to be known by the name of the Santa Rosa Poultry Association. J. J. Fitzgerald will be secretary and manager of the latter.

**GRAPES.**—Cloverdale Reveille: Peterson Bros. of Windsor have disposed of their entire crop of grapes to the Fountain Grove Vineyard Co. at \$16 a ton cash. An unusually fine bunch of grapes is on exhibition at Hoyle & Dunn's office. The grapes are of the Carignan variety. The bunch is perfectly formed and weighs four pounds. B. W. McGrath brought them in from his Pine Mountain ranch, 4 miles from Cloverdale.

### STANISLAUS.

**HOW DAIRYING PAYS.**—Modesto Herald: E. H. Wakefield has twenty cows, mostly pick-ups and good and indifferent. There are nine two-year-old heifers among them at present. During the past two years his herd has averaged \$5 per month for every cow in milk, even under these conditions. A selected cow returned \$12 in one month, a forcible argument for grading herds up. Mr. Wakefield states that the skimmed milk, fed to hogs and calves, far more than pays the cost of milk ng, etc., leaving the gross returns from the cream net profit.

**"STUCK" HALF A HUNDRED COWS.**—Stoney Dodd of Crow's Landing says a number of the dairymen over there are sustaining serious losses from bloat. He adds that Dairyman Rasmussen, who bought the old Winters' place from Ora McHenry, recently "stuck" about half a hundred cows at one time to relieve them from bloat, and saved all but two or three of the herd. Dodd states that he himself takes no chances, feeding only hay—the cured alfalfa—to his herd.

**A FARMER "DIPS" HIS HOGS.**—A farmer on the old Tom Price ranch on the San Joaquin river in Stanislaus county dips his hogs twice a year, and says he never loses a hog from disease. He has a regular dipping plant, very much after the style of a sheep-dipping plant.

**HANDSOME BUNCH OF GRAPES.**—Modesto News: V. B. Dale brought a handsome bunch of grapes to the News office. The grapes are sweet Tokays, of delicious flavor and large size. The bunch weighs in the neighborhood of six pounds and is from the ranch of F. M. Fellows, near Salida. The grapes were raised without irrigation.

### SUTTER.

**MORE BEAN LAND.**—Bee: Dr. G. H. Jackson has sold the Erke farm, south-

west of Sutter City, to a Mr. Moorehead for \$9500. One hundred acres of the tract were retained by the doctor for his own use, but the rest of the ranch will be divided up into small tracts and sold or rented to bean raisers. This tract is in the vicinity of the Markley tract, which has proved so profitable for beans, and of which at least 1000 acres were planted to beans the last season. The soil is covered with a fine silt, deposited by the action of the floodwaters from the Sacramento river, and is very rich.

### TEHAMA.

**REMARKABLE GROWTH OF MULBERRY TREES.**—Red Bluff News: The mulberry trees surrounding Court House square, which last spring were trimmed down to the trunks and a few short limbs, have made a remarkable growth the past summer. Some of them now have a spread of branch and limbs of 16 to 20 feet.

### TULARE.

**LIGHT GRAPE CROP.**—Times: The grape crop in the northern part of Tulare county this year, Supervisor Hawkins reports, is almost a failure as regards the size of the yield, though the quality is said to be first-class. There will be practically no second crop. Both the Sultana wine and raisin grape crops are short.

**GOOD PRICE FOR LAND.**—Reedley Exponent: A. B. Clarke sold to S. H. Barsoom a quarter section of land for the sum of \$35,000. The land lies 2½ miles southwest of Reedley. The whole quarter section is in a high state of cultivation, well improved, mostly in raisin vineyard, a fine two-story house and up-to-date outbuildings. It lies near Kings river and is not sub-irrigated.

**A NEW PEACH.**—Porterville Messenger: J. Fred Kessing has something new in the peach line. He does not know what to call it. He believes that he procured the tree among a lot of others that he purchased about six years ago of Luther Burbank of Santa Rosa. Unfortunately Mr. Kessing has but one tree bearing the fruit in question. The peach has remarkable features which makes it distinctive from any other peach known. In many ways it resembles a White Heath, but is a much heavier and a more juicy fruit. The skin is thin and tender and careful handling is necessary to keep it from spotting. Its greatest peculiarity is its seed and the color of the fruit about the seed. In a White Heath there is more or less red about the pit, but in Mr. Kessing's new fruit this is entirely obscure and the peach comes near being "seedless," the seed being unusually small. The new fruit would undoubtedly be a poor dryer owing to the great amount of juice, but for canning purposes it would seem difficult to beat. Last, but not least in its peculiarities, is its time of ripening. Not until the middle or the last of September does it ripen.

**ONE COW'S RECORD.**—W. B. Cartmill is keeping tab on some of the individual cows of his dairy herd, and from him we get the following figures for the product of one of them. He does not claim this to be anything extraordinary, as the cow is only a grade Jersey and not expected to be a record breaker. The statement is given simply to show what an average cow can do running on pasture and without any feed except what she got from that pasture. The yield was as follows: September 14th, 21.6 pounds of milk in the morning and 18.2 pounds in the evening, total 39.8; 15th, morning 21.7, evening 17.6, total 39.3; 16th, morning 19.2, evening 19.1, total 38.3; 17th, morning 18.5, evening 17.8, total 36.3; 18th, morning 19.6, evening 16.8, total 36.4; 19th, morning 19.4, evening 17.3, total 36.7; 20th, morning 19.9, evening 16.2, total 36.1. This makes a total for the seven days of 262.9 pounds of milk, which tested .042, giving 11.04 pounds of butter fat. This he valued at 22 cents, which is really below the market price, and it gave him \$2.43, or what is equivalent to \$9.72 for four weeks as the yield from one cow.—Porterville Messenger.

### Suggestions on the Use of Fertilizers.

A copy of the pamphlet, "Principles of Profitable Farming," is before us in a new and revised edition.

The principles of proper rotation with leguminous crops, and the great advantages to be derived from such methods, are explained in the pamphlet in a fascinating manner. A description of the experiment farm at Southern Pines, N. C., where the best methods of using fertilizers are being studied and put into practice, is also a valuable feature of this publication.

A thorough perusal of the book would be of interest and benefit to all practical farmers, and copies can be had, free of charge, by writing to the German Kali Works, 93 Nassau street, New York, N. Y.

## Horse Owners! Use

GOMBAULT'S



## Caustic Balsam

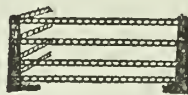
A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blisters from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## W. & P. ROOFING.

Best wool felt, thoroughly saturated and coated; elastic, and unaffected by heat or cold; will not rust or drip like metal; unaffected by acid fumes or gases; is not inflammable like shingles. Good for wineries, creameries, factories, warehouses—any place where steam or vapors abound; for roofing and lining dry kilns—will stand heat and insulate perfectly; for dwellings, stables, barns, stock sheds, poultry houses—anything needing protection from sun and rain. Lowest in price; best, irrespective of price. If interested let us send you sample. PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.

### LIKE A BOARD FENCE



Easily Erected  
No Experience  
or Expensive  
Tools Required

## Truss and Cable Fence

Can be erected one strand at a time just like a board fence using as many or as few strands as desired. Each strand is independent from the others and bearing down on the top will not cause a sagging peculiar to woven wire fences.

Write for descriptive circular.

Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.

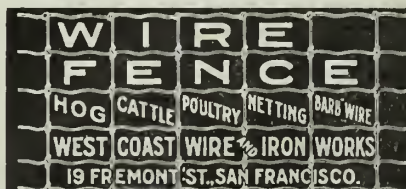


THE CREAM OF PERFECTION  
IN THE SELF-OPENING GATE LINE  
THE LLOYD CO.  
SOLE AGENTS AND MANUFACTURERS  
Petaluma, Cal.  
WRITE FOR OUR CATALOGUE



### TRYING TO BREAK

the world's record, a powerful runaway auto, at Zanesville, O., fair, ran into Page Fence and was stopped after killing or injuring over twenty persons. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



### FOR SALE.

100,000 Mission Rooted Grape Cuttings,  
30,000 Thompson Seedless Rooted Grape Cuttings,  
3,300 Assorted Peach Trees.

All Healthy and in Excellent Condition.  
For particulars, address E. R. DuBRUTZ, Public Administrator, Tulare Co., Cal.

### ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK, Rocky Ford, Colo.



## THE HOME CIRCLE.

### The Belated Lesson.

If you could come to me across the years—  
If you could enter within my door,  
With the calm eyes that knew nor storm  
or tears,  
And the sweet, helpful look you always  
wore.

If you should touch my shoulder—as in  
fear  
Lest my response be fretful or unkind,  
Dear heart, I'd seize the hand that hover-  
ed near,  
And just a warm glad welcome you  
should find.

Surely the pretty moods that once I knew  
Would shame me if you came, so brave  
and tried;  
I should forget myself and think of you,  
And the sore burdens that you strove  
to hide.

I think I should inquire, How went the  
day?  
And note your trembling lips, so quick  
to smile;  
And bid you rest, nor let you go away  
Till we had talked of hopeful things  
awhile.

Ah me, it was a little thing to learn;  
But, oh, I stand as if by some locked  
gate,  
And view the far-off fields, and thirst and  
yearn  
Because the words of love were learned  
too late. —Louis Dodge.

### Breaking His Fetters.

John Laurine's misfortune was that he had too much money. In college he had ranked above the average, in a desultory way; stroke oar, heavy batter, Grand Mogul of the roysterers and that sort of thing. It had been very satisfactory during college life, but afterward dwindled to rather small proportions. After his doubtful degree came several really good pictures which were never hung; a fierce plunge into Blackstone and musty precedents, which began to simmer after a few months and finally died away. Then came a trip to Europe and a grand survey of the situation. The world was before him, and in the end he returned and engaged a flat overlooking the park. It was quiet and retired, and in easy access to editors and publishers. With the favorable criticisms of his articles in the "College Thunderer" before him, there could be no question of success. But should it be a book or magazine articles? The former was decidedly more substantial.

There was a vast amount of reserve force stowed away in the young man, and a few months brought forth a really creditable work, as his friends declared; and even the editor who was favored with its perusal hummed a little and agreed to give it further consideration.

But here again the over-supply of riches proved John Laurine's overthrow. The editor's letter of criticism, though sharp, was kindly and suggested the re-writing of most of the book, after which its publication would be considered. By this time Laurine was becoming interested in a new theory of electricity, and did not think it worth while to call on the Franklin Square publisher, or make an explanation.

And then something else happened; Laurine fell in love. He thought he had done so several times before, but this was different. He was older now and perhaps saw things in a different light.

He had first seen her coming from the publishing house, and had been able to offer her the shelter of his umbrella. Even in her waterproof he could see she was of firm figure, well set and with strong, clear-cut features, lighted by a pair of calm, fathomless gray eyes. She was not beautiful, nor of "our set." He admitted the first, and did not care for the last. There was a nascent power and individuality about her which interested while it rebuked him.

She was very frank in reply to his questions. Yes, she worked for the firm, was art critic, and occasionally helped in the illustrating department. Yes, she was well satisfied

with her present situation; but the first few years had been hard. Did she live at home? Yes, with her mother. She was sending her younger brother to a school for designers; all the rest were dead.

Laurine, with his usual impetuosity, wanted to call, but she declined. They had not known each other an hour ago, she said, and probably would forget inside of another hour.

But Laurine did not care to be put off in this way. If a pursuit was to be dropped, he wanted to do the dropping. So it came about that he happened on the street and saw her again and again. And she was sometimes annoyed, but oftener amused. Besides she rather liked him. His well-knit figure, with its suggestion of latent strength, met her approval; and the almost boyish face, with its honest eyes and quizzical smile, was absolutely refreshing after the grave countenances and dull routine of the office. But he soon found sentiment was to be tabooed. Whenever his voice began to indicate its return, one look of her gray eyes set him to stammering, and he only found safety by plunging recklessly into some jocular anecdote.

As the months went by he grew desperate; and one day, as they were passing from Broadway toward the Park, he took advantage of a few yards of isolation, and poured forth the story of his love and desperation. She listened quietly until he had finished, and then apparently dismissing the subject from her mind, asked what he thought of the street they had just left.

"Never mind the street," he answered, sullenly, "it's only a big stage or an over-crowded bee hive. Tell me what I am to hope for. I cannot live this way any longer."

"Poor boy," she said, looking at him and smiling. "Cannot you understand that a woman who would be satisfied with the mere offer of money and position would be hardly worth the winning? Every one of the bees in that over-crowded hive has an object before it; all the actors have their part on the stage. I am ambitious, Mr. Laurine, and would not like to share the lot—"

"Of a drone," supplemented Laurine, bitterly. "I suppose I might throw away my fortune and position, and try selling matches on Broadway. Perhaps I would be worthy of recognition then."

"You know what I mean, Mr. Laurine," and the clear voice grew softer. "If I did not like you better than most of my friends I would not talk this way. You have ability far above the average; and, if you would only concentrate it on some object worthy—"

"I have," interrupted Laurine, coolly, "but she objects."

"Of your talents," she continued, calmly, "there would hardly be a limit to the possibilities of your future." Then, seeing he wanted to speak, she went on hurriedly: "No, I do not love you, I am not sure I could love anybody that way. If I did, he would have to be a hero—one whom I could look up to. He must have a nobler ambition than his own individuality, and be able to help me up instead of lowering me." The last few sentences had been spoken almost unconsciously, and now she looked at him with heightened color.

He reversed his former decision. She was beautiful, grandly beautiful, he thought as he watched her with a thrill at his heart.

"You have never met a man of this description I suppose?" he said, as quietly as possible.

She laughed a little.

"No, nor do I ever expect to meet him. You have no rival, Mr. Laurine," looking at him frankly; "but I hope you will dismiss such thoughts. You are rich, and if you like can make a career for yourself. I am only a working girl, but I have the same ambition for myself; and what I lack in talent, I am willing to make up by hard work. Is it a compact? Shall we dismiss the sentiment and be good friends?" And she smiled brightly and extended her hand.

He took it in both of his, and looked into her eyes a moment before answering.

"We will be good friends," he said, at length, "but I am going away tomorrow. Perhaps I may not see you again for years, but you must always remember me. I know what you have said is right. I have always been half-conscious of my weakness, but never had any special incentive to combat it. When I return, I hope to bring you ideal with me, or, at least, a fairly good counterfeit of him."

There was a quiet ring in his voice which made her look at him curiously. It was something she had not recognized before, and often, during the years that followed—years which brought her fame and a modicum of fortune—she thought of the calm voice and the earnest eyes bent so frankly upon her.

One day, toward the end of the third year, something happened which brought a sudden glow to her face and furnished much food for future thought. She was waiting in the little way station of a distant town, where she had been to make some drawings of an industrial school for poor boys, which had been recently established. It was on a new plan, and her chief had directed that she should obtain what information she could about it, in addition to making drawings. She was much taken with the scheme. It was novel and seemed to work admirably. The superintendent was pleasant, his wife sociable and the week necessary to complete the work passed rapidly.

She was reviewing it now as she waited for her train at the station. What sort of a man was he who had planned all this? She had learned about the work, but of the founder knew nothing. Presently she turned to the superintendent, who had accompanied her to the station.

"He must be very rich to erect such buildings," she said.

The superintendent hesitated for a moment, then answered slowly: "He is an old schoolmate of mine, and has queer notions. But I am afraid I cannot gratify you with his story. He particularly requested that his name be kept from the papers. Everything else should be open to the public, he said, provided he could keep in the background."

"I beg your pardon," she returned, smilingly. "I only wish to know what is for the public. Of course I will only send in such matter as you sanction after you have seen my report."

He hesitated a little, then: "I think I can trust you, Miss Graves. If you keep it to yourself, I do not mind giving you the main facts of the story. After all, it is no secret; a dozen besides myself are familiar with it. We only wish, out of deference to our friend, to keep it from becoming newspaper gossip. Nearly three years ago Mr. Laurine came to me and said that most of his classmates were far ahead of him in the race, and were already carving their names in honorable niches; that he had come to the conclusion that the real obstacle in his path was the fortune, and had decided to recommence the race on the same footing as his comrades. He had been the wealthiest one in the class, and the one who made the most signal failure. Before he left, he gave me plans of these buildings and told me to examine them carefully. I did not know his real intention until a few days later, when he returned with his lawyer. Then everything, even to his library, furniture and bric-a-brac, was made over to us as trustees. He left for the West a few days later, with just money enough for immediate expenses. The school was finished and opened last fall. Although I still think Laurine was foolish, I must admit the work was a grand one and will be the making of hundreds of poor lads."

During the recital Miss Graves had kept her eyes fixed upon the floor, and now as she raised them, he thought he saw a suspicion of moisture in their depths.

"And Mr. Laurine has never seen the buildings himself?" she asked, in a low voice.

"No. We have never heard from him since the day he turned the property over to our care."

Meanwhile, in a little village in northern Idaho, a man was poring over

a lot of plans and specifications scattered about the pine desk in one corner of his office. In another corner was a rude bunk; the third contained a rusty stove mounted on blocks and in a picturesque state of collapse; while the fourth and last corner was devoted to a heap of fuel, a pair of heavy boots, and a saddle which had evidently seen service. It would not require much imagination to conclude that the worker at the desk was his own cook and housekeeper. Outside the office, which was about ten by twelve, and made of logs and mud cement, a modest shingle informed the public that J. Laurine, civil engineer, had his headquarters inside.

But the first impression of dinginess began to fade away after a look about the town, or city, as it preferred to be called. Excepting the barrooms and gambling house, there were few buildings which aspired to the dignity of boards or windows. They were only required to "burrow" in. The days were spent in the mines or prospecting, while the evenings could be passed in the gambling houses.

The first year or two of Laurine's professional existence was not encouraging. There was an undue proportion of civil engineers, lawyers and doctors in the place, and had it not been that the mountains were full of game, some of the larders might have grown scant.

Laurine spent much of his time in prospecting and examining the surrounding gulches and canyons. By the end of the second year he was the best posted man in the neighborhood. One wild and hitherto supposed inaccessible ravine particularly engaged his attention. By means of ropes and grapnels he lowered himself from point to point, and, in spite of constant warnings, kept it up until he became pretty thoroughly acquainted with all its characteristic features. As he usually returned with a fine string of mountain trout, he was supposed to risk his neck constantly for the fishing. He did not try to alter the impression. His plans were not ready yet.

Two miles below the city, as the crow flies, were some of the richest mines in the country. A dozen men had already made enormous fortunes, and many more were in a fair way to rival them. But the place was almost inaccessible, with stupendous cliffs and fathomless precipices on every side. The nearest source of supplies was Wahita, twelve miles away, and even this could not be reached by horsemen. The mail and easily portable articles were carried on the backs of men, and naturally the value of merchandise had doubled many times before being offered for sale on the counters of Silver Bar. Large articles had to be muled around Bear Mountain and up Ragged Gulch, a distance of of nearly twenty-five miles.

There were frequent agitations of a railroad, either directly from Wahita or by way of Ragged Gulch. But the enormous expense which would attend the tunneling of mountains and bridging of chasms always kept the scheme in abeyance.

And this was why Laurine spent so much time in familiarizing himself with Lost Canyon, as it was called. He believed that, in spite of the apparently insurmountable obstacles, a track could be laid through the canyon much cheaper than by either of the longer routes. True, it would have to be cut in the solid face of the rock much of the way, but on the other hand, there would be but two miles of road to the twelve by even the shorter of the other routes. And, once built, the short line could be run so much more economically.

But the trouble would be to convince capitalists of the feasibility of his plans. Lost canyon had a bad name. There were stories of men who had entered it and never been known to return. The fact of his having lowered himself into it by means of a rope did not prove that an army of men could do the same, and take with them the necessary tools and machinery to build a railroad.

However, when the question of a road was brought up again a few months later, and a meeting called to see if



sufficient stock could be taken to make it practicable, he unfolded his plan and made a warm speech in its support. There were many friendly faces in the crowd, and some few really seemed interested in the scheme. But they were mostly miners; the capitalists from the east, whom he had hoped to interest, wore a common look of incredulity. Their engineers and experts had pronounced the scheme utterly impracticable, and said it was impossible to make even a thorough preliminary survey. A few perilous fishing excursions were hardly sufficient to warrant the expenditure of the enormous sum necessary to develop a visionary idea which could not possibly prove successful.

Laurine asked that an expert be sent with him to spend a few days in looking over the canyon. But no! it would be madness to risk life and throw away money on what was clearly impossible. And Laurine left the building with the feeling that two and a half years had been thrown away.

As he passed out, one of the red-shirted miners who had cheered his scheme arose and followed him to the street.

"Mr. Laurine," he said, as he caught him by the arm, "bout how much will this 'ere road cost?"

"Oh, a hundred thousand times or so as much as you or I could raise, I suppose," was his answer.

"Mebbe—mebbe; but p'raps I'm wuth more'n my ole clothes show for. The Billy mine gin me a tol'ble big 'hist."

Laurine started. The Billy mine was one of the rich veins recently struck at Silver Bar, and was reported to be enormously productive. Its fortunate discoverer was a happy-go-lucky miner who had already made and spent several fortunes, and who was now reported to have gone east to scatter the half million received for a one-third share of the Billy.

"I'm rather struck on your idee, mister," he said, as he walked along with the wondering Laurine. "I had 'lowed on a high jinks down east, but reckon railroadin' can do this time. 'Sides, I've never 'tried railroadin'. If it'd been a common kind o' road like the spekerlaters in yonder figger on, I wouldn't 'a' teched it. But through the Lost Canyon seems a jolly reckless sort o' thing, 'n' I opine we'll make Rome howl. What say, stranger; sh'll we go pards on it?"

"But how?" asked Laurine. "I haven't any money. Besides, I am a stranger to you; and the capitalists back yonder say the scheme is impossible. You may lose your money."

"Objection fust, you do the scribblin' an' head work an' I'll furnish the chink; objection the next, I don't gener'ly cotton to strangers 'less they're wuth freezin' to; an' as to objection the last, 't ain't wuth mentionin'—I don't figger a game as has all trumps wuth the playin'. You jes' take the half million an' go ahead; an' when that's gone, I reckon the Billy'll pony up some more for us. Ef the Billy don't pan enough, I figger the road'll be fixed by that time so we c'n borry some on it."

And so a copartnership was drawn up between John Laurine and Williams of Silver Bar—he would give no other name. A charter was obtained, machinery purchased, and soon each end of Lost Canyon became the scene of busy activity. Skillful workmen from the east and cheap Chinese labor from the west united in subjugating the mountains and bridging the ravines.

In spite of the small army of workmen, however, the road progressed slowly. It literally had to be drilled and cut along the face of the rock inch by inch. By means of ropes and temporary bridges, a few of the more daring engineers were induced to enter the canyon and plan the course of the road-bed. But none of the workmen could labor there; only a fly could have clung to the smooth surface of the cliffs. Nor was it even possible, at any point, to let workmen down by means of ropes. And even at the ends of the canyon, where the road-bed was slowly creeping into the rock, the workmen refused to labor until a strong iron railing was built along the face of the precipice as

the road progressed. With the dizzy chasm before them and the half-mile of almost perpendicular rock behind, the road seemed but a tiny thread drawn across the face of the cliff. Laurine and Williams of Silver Bar, for the latter insisted on sharing a pick or shovel with the men, were indefatigable and could always be found on some part of the road.

At length the winter drove them off, and tools and machinery were oiled and packed away until warm weather would again allow them to resume work. Laurine returned to the book he had been working on at odd times during the past two winters.

In spite of the still skeptical smiles of his friends, Laurine was in high good-humor. The obstacles were being overcome as rapidly as he had expected, and, if the Billy held out, he was sanguine of success. The verdict that, even if the road were completed, nobody would dare ride over it, he felt was absurd. Americans were not timid, as a rule; and, after a few trips had been made without accident, there would be no further trouble. There were several places on the Union Pacific and Canadian Pacific which were regarded as special attractions of the route.

Winter in northern Idaho is long and severe, and Laurine spent much of his time in completing and correcting his book. By the time the work could be resumed on the railroad, it was on its way to the publishers.

The road was again pushed on as rapidly as possible, but another winter found it still incomplete. Its success was, however, assured, and there were now plenty of capitalists who were ready to take stock. But Williams of Silver Bar demurred.

"Whole hog or none, long's the Billy holds out," he said.

And the Billy was doing nobly. It was not until the third summer that Williams of Silver Bar was obliged to sell another third to meet expenses. Before that was gone the road was completed and in operation, and Laurine's name familiar to every railroad man in the country. And Williams of Silver Bar was happy. He was a railroad magnate—and not of a common, every-day railroad either.

Meanwhile, the book was a success. It was strange, bold, weird, like the mountains around, for the scene was laid at Silver Bar. As the saying goes, it "took," and the publishers wrote that they had decided to have the later editions illustrated, and would send an artist for that purpose.

Laurine went to the station to meet him, but only one man alighted from the train. He was a Chinaman, and Laurine was turning away when one of the two ladies who had left the train came toward him.

"Miss Graves! Here?" he exclaimed.

She smiled brightly.

"Your publishers did not give you the name of the artist, I see," she said, quietly.

But there was something in her eyes which more than repaid him for the waiting.—Frank H. Sweet.

#### Large Connection.

An amusing story is told of Robert Simson, who was professor of mathematics at the University of Glasgow, and as eccentric in some ways as he was brilliant in others. He always counted his steps on the street and allowed nothing to interfere with this valuable practice. If any one spoke to him during the process, he repeated the number of the last step taken and stopped short until he could resume his count and walk on.

One day he was accosted by a man who knew him by sight, but had never been told of the professor's habit of counting steps.

"I beg your pardon, professor," he said, at which the mathematician halted murmuring: "Five hundred and seventy-three."

"May I have a word with you?" asked the man.

"Most happy—573."

"Oh, no; merely one question."

"Well—573."

"You are too kind; but, knowing your acquaintance with the late Dr. B., may I venture to ask whether I am right in saying he left £500 to each of his nieces?"

"Precisely—573."

"And there were four nieces, were there not?"

Exactly—573."

The man stared at the professor, and then, muttering, "Five hundred and seventy-three—he must be crazy!" he made a hasty bow and started away.

"No, no," cried the professor, taking a step as he spoke; "not 573 nieces—four—574!"

By land and sea I traveled wide;  
My thought the earth could span;  
And wearily I turned and cried,  
"O little world of man!"  
I wandered by a greenwood's side  
The distance of a rod;  
My eyes were opened, and I cried,  
"O mighty world of God!"

—F. W. Bourdillon.

#### Believe in Signs.

"See dat," said a hobo, pointing to an unevenly drawn circle on a wall near where he was standing.

"Well, that don't mean much to you, of course, but to me it says, 'No good to call here.'"

"Yes, sir, dat's just what dat means. And it is true as gospel, too. I tried ter touch dem folks before I saw dat, but I got de ha-ha. Dat sign is all right."

"Looks like kid's work, don't it? But it ain't. Here, gimme dat paper and pencil; I show yer."

"See dat," and he drew a circle with a cross inside it. "Well, now, dat means, 'People here will give you food.' Gee, but dat's de sign dat gives yer watery eyes!"

"But, say, look at dis," and he drew a square with a series of queerly arranged marks in one of the lower corners.

"If yer ever gets on de road, pard, and claps yer eyes ter dat sign, steer clear of der whole layout."

"Why? Well, dat means dere's er dawg in der garden, see? Dat is, dat's what it means on er house. On any other place it means look out fer trouble of all kinds. An' say, boss, dose are de kind of signs yer want ter get ter believe in."

"But, say, wouldn't dis make yer laugh?" and he rudely sketched a pitchfork with a cross beside it.

"Dat means, 'Ye may get er job here.' I shake dem, too."

"Now, here's one dat ain't so bad," and, drawing a big V-shaped character, he sketched what looked like three little tents arranged in a string beside it.

"Dat means, 'Pitch er yarn, dere's tree women in dis house.' Dat's a pretty good sign. Tree women ain't no match for er good bluff about a sick wife an' er couple er kids starvin'. Ef er feller's any good at pitchin' er yarn, dat sign means sumpin' doin' righter-way."

"But dis sign ain't no joy breeder," he remarked, as he sketched a series of straight intersecting lines looking like the bars of a prison.

"Dat means de boss here will have yer pinched, an' it don't pay to butt in where yer see dat."

"An here's ernoother trouble breeder," he remarked, as he drew a circle with two rudely shaped arrows piercing it? "Dat? Well dat means, 'Get out er dis place as quick as yer can.' Failin' ter mind dat sign gets people inter trouble."

"That summer boarder caught some fish this morning," said Mrs. Cornotssel. "Says he threw his line into a school of 'em." "Any fish that was foolish enough to let him catch 'em didn't belong to a school," rejoined her husband. "That must have been an asylum."

"What is that ma said to you when you came in?" whispered young Bobby to Featherly, one of the invited: "Oh, simply that she was delighted to see me; that was all, Bobby." "I'm glad of it," said Bobby, and a look of genuine

relief came over his face, "cause she said this morning she hoped you wouldn't come."

#### Hints to Housekeepers.

Patient rubbing with chloroform will often remove paint stains from the most delicate fabrics.

Peas should be washed in the pods to remove mildew and dirt. Indeed, the flavor and delicacy of peas is much improved if the pods are soaked in cold water for some time before shelling.

A small tray of quicklime placed in closets after they have been thoroughly cleaned will be found excellent for keeping the air pure and absorbing moisture. The lime must be frequently renewed.

A preparation that a professional cleaner recommends for use on delicate materials is made of equal parts of ether, chloroform and alcohol. It must be tightly corked, or it will lose its strength.

Put a bottle of alcohol into the vacation trunk. There is nothing better to do for wasp or hornet stings than to bathe the afflicted part with alcohol. It is also good to use in case of ivy poisoning.

Green peas and bacon are almost a meal for a summer day. Cut a pound of bacon into dice and brown slightly in a saucepan. Stir into the bacon a tablespoonful of flour. Add a quart of shelled peas, an onion, a bunch of parsley and half a pint of water. When the peas are tender season and serve without the parsley, and without the onion, if desired.

Coffee stains are difficult to get out of light colored or finely finished materials. If the material is woolen or mixed goods, make a solution of nine parts water, one part glycerine and one-half part aqua ammonia. Apply with a brush, allowing solution to remain half a day. Renew the moistening occasionally, then rub with a clean cloth and press between two pieces of cloth.

A delicate little sandwich that is on tap in French tea rooms starts with a thin round of white bread cut out with a biscuit cutter. It is spread on top with cream cheese and currant jelly blended to a pink cream. On top of this is placed a second circle of bread, the same size as the first, lightly spread with chopped pistachio nuts. The effect of white, pink and green is charming, and the gustatory result is highly satisfactory.

There is a chocolate soup that may be served ice cold. To make it, boil together for five minutes a cupful of water and one-fourth pound of grated chocolate, stirring constantly. Add two quarts of cold milk, the yolks of five eggs and sugar to taste, and beat over the fire with an egg beater until the mixture boils. Then remove it at once from the fire and turn it into a tureen. Drop the stiffly beaten whites on the top with a teaspoon, sprinkle them with sugar, and chill.

Gooseberry soup is a hot weather possibility. Clean and stew a quart gooseberries, with eight cupfuls of water and two cupfuls of sugar. Strain through a fine sieve and bring again to a boil. Have ready two rounding tablespoonfuls of cornstarch blended with a little cold water. Stir it into fruit syrup and boil for five minutes. Remove the soup from the fire and flavor with wine. Serve either hot or cold.

"Cut a juicy lemon in half," says the woman who knows, "dip the head into a bowl of lukewarm water, then squeeze the lemon among the roots of the hair, rub the scalp and hair itself vigorously; then rinse well in clear water of the same temperature. Dry thoroughly and there will be no danger of taking cold. No soap is needed, the acid of the lemon removing all grease and dust." The lemon bath needs only one trial to prove a luxury well worth adoption. Draw the tub of bath water and slice three or four lemons into it. Let it stand half an hour before using, that the juice may have a chance to thoroughly impregnate it.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, October 7, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	77 1/2 @ 77 1/2	78 1/2 @ 78 1/2
Thursday.....	76 1/2 @ 76 1/2	77 1/2 @ 77 1/2
Friday.....	77 1/2 @ 77 1/2	78 1/2 @ 78 1/2
Saturday.....	78 1/2 @ 77 1/2	79 1/2 @ 78 1/2
Monday.....	77 1/2 @ 76 1/2	78 1/2 @ 77 1/2
Tuesday.....	76 1/2 @ 77 1/2	77 1/2 @ 78 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	46 1/2 @ 45 1/2	46 1/2 @ 45
Thursday.....	44 1/2 @ 45 1/2	44 1/2 @ 45
Friday.....	45 1/2 @ 46 1/2	44 1/2 @ 45 1/2
Saturday.....	45 1/2 @ 44 1/2	45 1/2 @ 44 1/2
Monday.....	44 1/2 @ 44	44 1/2 @ 43 1/2
Tuesday.....	44 1/2 @ 45 1/2	44 1/2 @ 44 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	1 37 1/2 @ 1 38 1/2	1 38 1/2 @ 1 39 1/2
Friday.....	1 38 1/2 @ 1 39 1/2	1 40 1/2 @ 1 40 1/2
Saturday.....	1 38 1/2 @ 1 38 1/2	1 39 1/2 @ 1 39
Monday.....	1 38 1/2 @ 1 37 1/2	1 38 1/2 @ 1 38
Tuesday.....	1 37 1/2 @ 1 37 1/2	1 37 1/2 @ 1 37 1/2
Wednesday.....	1 38 1/2 @ 1 38 1/2	1 38 1/2 @ 1 38 1/2

### WHEAT.

While there was some recovery in speculative values from the declines of previous week, the improvement was not sufficiently pronounced to affect the spot market materially for the better. Values for immediate deliveries showed little quotable change, but demand was slow both for shipment and on local account. With the exception of one clearance this week, there have been no straight cargoes of wheat sent afloat this season from this port, and only a few ships are taking wheat as stiffening, prior to loading barley at Port Costa. Some of the wheat going aboard the ships for stiffening is coming from Oregon and Washington. As an exporter of wheat, California has dropped from the prominent position she once occupied, and will probably never again be a heavy wheat producer, much of the area formerly devoted to grain having been of recent years turned into orchards and vineyards. California has produced in a single season over one million tons surplus or wheat for export, and in three years was this record made, viz: in 1879, 1880 and 1884. The banner yield was in 1880, the wheat surplus that year amounting to 1,380,000 tons. The other extreme was in 1898, when the surplus was only 38,000 tons. Last year the wheat exports from California footed up not quite 275,000 tons, but the present year will undoubtedly make a much lighter showing, as the wheat is not in the State in sufficient quantity to permit of making much of a record in the matter of exports for 1903. Recent business has been largely on milling account, shippers having lately made no effort to purchase.

California Milling.....	1 50 @ 1 55
Csl. No. 1 shipping, alongside.....	1 40 @ 1 42 1/2
Oregon Club.....	1 40 @ 1 45
Washington Blue Stem.....	— @ —
Washington Club.....	— @ —
Off qualities wheat.....	— @ —

### PRICES OF FUTURES.

December, 1903, delivery, \$1.39 @ 1.37.  
May, 1904, delivery, \$1.39 @ 1.38.  
Wednesday, at the forenoon session of Exchange, Dec., 1903, wheat sold at \$1.38 1/2 @ 1.38 1/2; May, 1904, \$— @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations....	65 1/2 @ 65 1/2 d	— d @ — d
Freight rates.....	20 @ 21 1/2 s	12 1/2 @ 15 s
Local market.....	\$1 18 1/2 @ 21 1/2 s	\$1 40 @ 42 1/2 s

### FLOUR.

There are more mills running than for some time past, and in consequence stocks of flour have been lately on the increase. While the market has been displaying an easier tone, there are no quotable declines to record. No great tumbles in prices are looked for soon, although somewhat easier rates than lately current are probable. Present stocks are mostly extras, there being very little superfine on the market.

Superfine, lower grades.....	\$3 00 @ 3 25
Superfine, good to choice.....	3 35 @ 3 50
Country grades, extras.....	4 00 @ 4 25
Choice and extra choice.....	4 25 @ 4 50
Fancy brands, jobbing.....	4 50 @ 4 75
Oregon, Bakers' extra.....	3 50 @ 4 00
Washington, Bakers' extra.....	3 50 @ 4 15

### BARLEY.

The recent efforts to depress values for this cereal have not been attended with much success. The outward movement continues of liberal proportions, and there is a fair sized fleet still in port which is booked mainly for barley. In addition to

heavy shipments for Europe, one clearance was made the past week of 1,800 tons for Australia, this being largely Chevalier. Six barley clearances were made for Europe, aggregating 14,700 tons. While the State is losing caste as an exporter of wheat, a comparatively good record is being made in the matter of barley shipments. Quotations remain about as last noted, and current values are being well maintained.

Feed, No. 1 to choice.....	\$1 12 1/2 @ 1 13 1/2
Feed, fair to good.....	1 10 @ 1 12 1/2
Brewing, No. 1 to choice.....	1 30 @ 1 32 1/2
Chevalier, No. 1 to choice.....	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair.....	1 12 1/2 @ 1 32 1/2

### OATS.

Trade in this cereal has not been brisk the current week, but market did not incline materially in favor of buyers. Holders as a rule preferred carrying, rather than make decided concessions to effect sales. Stocks were principally Whites and Reds. Some Surprise oats are arriving from Oregon. This variety fails to command the premium in the matter of price that has been realized in past seasons. Blacks remain scarce, with market strong for the higher grades.

White Oats, fancy feed.....	1 30 @ 1 32 1/2
White, good to choice.....	1 25 @ 1 27 1/2
White, poor to fair.....	1 20 @ 1 22 1/2
Gray, common to choice.....	— @ —
Milling, good to choice.....	1 25 @ 1 30
Surprise, good to choice.....	— @ —
Black Russian feed.....	1 15 @ 1 30
Black for seed.....	1 45 @ 1 60
Red, fair to choice.....	1 15 @ 1 30

### CORN.

Market is tolerably well stocked with Eastern corn, both White and Yellow, straight and mixed, and for these descriptions is easy in tone, but since last review no further declines have been established in quotable values. California corn is not being offered freely, but values for the same are necessarily affected by the lower prices lately prevailing for the imported product. Small Yellow continued in scanty supply.

Large White, good to choice.....	1 45 @ 1 50
Large Yellow.....	1 45 @ 1 50
Small Yellow.....	1 70 @ 1 75
Eastern, in bulk.....	1 32 1/2 @ 1 37 1/2

### RYE.

The advanced figures last quoted are being maintained, the quantity of rye offering not showing large aggregate, and there being no undue selling pressure.

Good to choice, new.....	1 25 @ 1 30
--------------------------	-------------

### BUCKWHEAT.

Quotable values remain as last noted, but for the time being are largely nominal, in the absence of noteworthy offerings of this cereal.

Good to choice.....	2 00 @ 2 50
---------------------	-------------

### BEANS.

The market in this center has been very quiet since last review, and the firm feeling of a few weeks ago was lacking. There were rumors of a combine among dealers to break prices. Some of them are said to have shorted the market to a considerable extent at materially lower figures than have been lately current. There is talk of short sales of Large Whites at \$2.70 for Oct. delivery. The market will have to decline to a marked degree from quotable levels before such short sales can be profitably covered. It is the rare exception where growers show disposition to crowd stocks to sale, and while the market cannot be termed firm, no great activity in the inquiry would be necessary to cause asking prices to touch as high levels as have been yet established this season. Eastern markets are reported firm, with stocks light.

Pea, fair to good, 100 lbs.....	3 15 @ 3 35
Small White, good to choice.....	3 10 @ 3 30
Large White.....	2 60 @ 2 85
Pinks.....	2 70 @ 2 95
Barley, good to choice.....	2 70 @ 2 95
Reds.....	2 75 @ 3 00
Red Kidney.....	— @ —
Limas, good to choice.....	3 40 @ 3 50
Black-eye Beans.....	2 70 @ 2 80
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, small.....	1 25 @ 1 50

### DRIED PEAS.

Not many coming forward, nor are stocks in this center large at present of any description. The beans now held in second hands are largely of the Green variety. Market is firm at current rates for both Niles and Green of prime quality.

Green Peas, California.....	2 00 @ —
Niles Peas.....	2 35 @ —

### HOPS.

While there is no evidence of very much doing in this center, considerable business is reported at producing points and at figures indicating a stiff market. Some recent sales of Sonoma were reported at 25c, but growers are now generally asking higher figures. Advices from the North state that 1000 bales of Oregon hops were sold last Thursday at 25c. It was the largest day's business done this season, and indicated a strong demand on the part of dealers. The lots ranged from 100 to 200 bales each, and were from prime to choice in quality. Even at 25c growers are not inclined to sell. The New

York Producers' Price Current, in reviewing the situation, says: "The United States crop of 1903 has all been harvested and the estimates which have previously been given, namely from 215,000@225,000 bales, are considered conservative. The firm attitude of growers in nearly all sections of the country has delayed baling of the new hops and comparatively few samples are shown as yet. In New York State there have been recent sales at 29c@30c, and some advices report a higher bid for certain favorite growths. In Oregon holders are asking 25c and higher. Buyers seem to be giving the preference to the Sonomas, and a number of lots have been purchased recently at 25c. The influence of the strong attitude of growers is to make a firm market here, though the volume of business is not large. Brewers, apparently, do not have confidence in the stability of present values, and they are only buying as immediate needs require. Dealers are also very conservative in their views and are not stocking up much. On the basis of country cost 31c would be as low as choice State 1903 hops could be bought, but we see nothing in the situation to warrant a higher quotation than 29c for the best of the Pacific coast stock. Cables from London received toward the close report an increase in the estimates of the English crop, and the yield is now placed at 425,000@450,000 cwt. This is due to the better weather conditions since the recent heavy storm. The German markets have declined 15 marks, but there is a good deal of business at the lower rates."

California, good to choice, 1903 crop..... 23 1/2 @ 25

### WOOL.

There is not much business doing locally in the way of transfers from first hands, and not likely to be the current season, owing to absence here of noteworthy offerings, most of the buying being done in the interior. At Baker City, Or., a Boston wool concern purchased on Thursday last 300,000 pounds of wool at prices ranging from 10c to 11c. There is a generally healthy tone, Eastern markets being reported steady to firm.

### SPRING.

Humboldt and Mendocino.....	18 @ 20
Northern, free.....	16 1/2 @ 17 1/2
Northern, defective.....	14 @ 16

### FALL.

Mountain free.....	11 @ 13
San Joaquin Plains.....	8 @ 11
Nevada.....	12 @ 16

### HAY AND STRAW.

Market for hay developed some important changes the past week, showing a generally better condition than previously noted, being firm for best qualities, especially high-grade Wheat hay, but easy in tone for ordinary grades of cow hay. Some hardening of prices is looked for on latter in the near future, as the hay crop is now practically all housed and storage charges are accruing. Straw is in fair supply and demand only moderate.

Wheat, good to choice.....	12 00 @ 15 50
Wheat and Oat.....	12 00 @ 15 00
Oat, fair to choice.....	11 00 @ 13 50
Barley.....	9 00 @ 12 50
Clover.....	9 00 @ 10 50
Alfalfa.....	8 50 @ 11 50
Stock Hay.....	8 00 @ 10 00
Compressed.....	12 00 @ 15 50
Straw, 1/2 bale.....	45 @ 60

### MILLSTUFFS.

Bran has been in slightly better demand and, with stocks in few hands, the market has shown more steadiness. Middlings were in limited supply and prevailing values were fairly well maintained. Rolled Barley was steadily held. Market for Milled Corn was easy at a further decline.

Bran, 1/2 ton.....	21 50 @ 22 50
Middlings.....	25 10 @ 27 50
Shorts, Oregon.....	21 50 @ 22 50
Barley, Rolled.....	24 00 @ 25 00
Cornmeal.....	31 00 @ 32 00
Cracked Corn.....	31 50 @ 32 50

### SEEDS.

Little doing at present in this center in any of the seeds quoted herewith. There are no large spot stocks of any variety. Some Flaxseed is arriving from Washington and is going mainly to the oil works, representing prior arrival purchases or deliveries on contracts. Market is still practically bare of alfalfa and there is nothing upon which to base quotations.

	Per ctt.
Alfalfa, Utah.....	— @ —
Alfalfa, Cal., good to choice.....	2 25 @ 2 50
Flax.....	2 75 @ 3 00
Mustard, Yellow.....	3 00 @ 3 25
Mustard, Trieste.....	— @ —

	Per lb.
Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/4
Hemp.....	3 1/2 @ 4
Timothy.....	6 @ 6 1/2

### HONEY.

Arrivals lately have been of tolerably liberal proportions, and the outward movement the past week has been the largest by long odds since the opening of the current season. The steamer Minnetonka, sailing on the 2nd inst., carried 279 cases for New York. On the same day the British ship Inverness-shire cleared

for London with 300 cases as part cargo. Most of this honey was purchased at producing points. Values are ruling fairly steady, the quotable range being without material change.

Extracted, White Liquid.....	6 @ 6 1/2
Extracted, Light Amber.....	5 1/2 @ 6
Extracted, Amber.....	5 @ 5 1/2
Extracted, Dark Amber.....	4 1/2 @ 5
White Comb, 1-lb frames.....	13 @ 14
Amber Comb.....	9 @ 11
Dark Comb.....	— @ —

### BEEFWAX.

A shipment went forward by steamer this week for New York. There is not much offering, either spot or to arrive. Custom is readily secured for desirable qualities at full values current.

Good to choice, light 1/2 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### LIVE STOCK AND MEATS.

Beef is in moderate supply and fair request, values ruling steady. Veal is showing materially increased receipts, much of it being too young to be desirable, and for this sort the market is weak. Mutton is in sufficient supply for all current requirements, and while quotable values show no material change, only for strictly choice does the market show firmness. Some very fine Wethers sell slightly above quotations. Small Lambs are in light receipt and in good request; of Large Lambs there is an abundance. Hog market was without special change, although there was a slightly easier feeling, receipts being rather large. Roasting Pigs continued in request on Chinese account, bringing about same figures as desirable packing stock.

Allowing for the shrinkage of about 50 per cent, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1/2 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6
Beef, 3rd quality.....	4 @ 5
Mutton—ewes, 7@7 1/2; wethers.....	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 5 1/2
Hogs, large hard, over 250 lbs.....	5 1/2 @ 5 1/2
Hogs, small, fat.....	5 1/2 @ 5 1/2
Veal, small, 1/2 lb.....	8 @ 9 1/2
Lamb, Spring, 1/2 lb.....	9 @ 10

### HIDES, SKINS AND TALLOW.

Business in this department is of fair volume, both for shipment and on local account, quotable values remaining practically as last noted.

### BAGS AND BAGGING.

There has been considerable movement lately in Bean Bags, but with this exception the market has ruled dull and featureless. In the entire list there are no changes to record in quotable rates.

Bean Bags.....	4 1/2 @ 5
Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/2
Grain Bags, Calcutta, buyer June-July.....	— @ —
Grain Bags, San Quentin, in lots of 2,000, 100.....	5 55 @ —
Wool Sacks, 4-lb.....	32 @ —
Wool Sacks, 3 1/2-lb.....	30 @ —

### POULTRY.

There were only moderate receipts of California poultry, but rather heavy offerings of Eastern, including some carried over from preceding week. Young Chickens were lower. Good to choice young Turkeys and Ducks sold as a rule to fair advantage, the quotable range remaining much the same as preceding week. Geese ruled steady. Large fat Hens were in good request and sold above quotations. Common old fowls moved slowly at low figures. Young Pigeons were in light receipt and market was firmer.

Turkeys, young, 1/2 lb.....	21 @ 22
Turkeys, old, 1/2 lb.....	14 @ 17
Hens, California, 1/2 dozen.....	4 50 @ 6 00
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	4 50 @ 5 50
Fryers.....	4 00 @ 4 50
Broilers, large.....	3 25 @ 3 50
Broilers, small to medium.....	2 75 @ 3 25
Ducks, old, 1/2 dozen.....	5 00 @ 6 00
Ducks, young, 1/2 dozen.....	5 50 @ 6 50
Geese, 1/2 pair.....	1 50 @ 1 75
Goosings, 1/2 pair.....	2 00 @ —
Pigeons, old, 1/2 dozen.....	1 25 @ 1 50
Pigeons, young.....	1 50 @ 2 25

### BUTTER.

Stocks of fresh have been accumulating, as was to have been expected, being held above the figures ruling on cold storage goods, the difference in price being in many instances decidedly greater than warranted by the difference in quality. Very little of the fresh now coming forward is of sufficiently high grade to be suitable for the best trade. Favorite creameries have been selling at concessions, and on common qualities of fresh buyers had very much their own way. Large quantities of cubes, California and Eastern, are being cut into squares for the retail trade. Eastern markets are quoted weak and lower.

Creamery, extras, 1/2 lb.....	28 @ 29
Creamery, firsts.....	26 @ 27
Dairy, select.....	24 @ 25
Dairy, firsts.....	22 1/2 @ 23 1/2
Dairy, seconds.....	19 @ 21
Firkin, good to choice.....	— @ —
Mixed Store.....	18 @ 20



## CHEESE.

Market is slow and weak, except for a little mild flavored new of high grade. Stocks of flats are of liberal proportions. Young Americas are in light supply, but only in a small way are they salable at full prices ruling. Eastern cheese is being very steadily held.

California, fancy flat, new.....	12 1/2 @ 13
California, good to choice.....	11 1/2 @ 12 1/2
California, "Young Americas".....	13 1/2 @ 14
Eastern.....	14 @ 15 1/2

## EGGS.

Fancy fresh were in light receipt and in a small way brought stiff figures. Ordinary fresh received little attention, cold storage and Eastern being taken in preference by most buyers. Tendency on Eastern, both fresh and held, was to firmer figures than had been ruling, owing to hardening of values at primary points. Kansas eggs were held there at 21 1/2 c. for fresh and 19 1/2 c. for cold storage firsts in carload lots, costing landed here about 4 c. more for freight and other charges.

California, select, large, white and fresh.....	40 @
California, select, irregular color & size.....	33 @ 36
California, good to choice store.....	22 1/2 @ 25
Eastern.....	22 1/2 @ 26

## VEGETABLES.

It is the exception where fresh vegetables are now making much of a display, and choice qualities are commanding in the main fairly good prices. Tomatoes were in rather large receipt, but were mostly under choice; some of common quality went to canners at about \$7 per ton. Green corn was in such light receipt and mostly of such ordinary quality that it was hardly quotable. Onions were in ample supply and market was devoid of noteworthy firmness.

Beans, Lima, # lb.....	2 1/2 @	3 1/2
Beans, String, # lb.....	2 @	3
Cabbage, choice garden, # 100 lbs.....	60 @	—
Cucumbers, # large box.....	35 @	—
Egg Plant, # box.....	40 @	60
Garlic, # lb.....	2 @	3
Onions, Yellow Danver, # ctl.....	50 @	65
Okra, Green, # small box.....	40 @	60
Peas, Sweet Garden, # lb.....	3 @	3 1/2
Peppers, Green Chile, # box.....	30 @	50
Peppers, Bell, # box.....	35 @	60
Summer Squash, # large box.....	40 @	65
Tomatoes, Bay, # large box.....	35 @	60

## POTATOES.

Offerings of potatoes, mainly Burbank Seedlings, were of liberal volume as compared with the demand, and for the general run of stock the market was devoid of firmness. A few high-grade Salinas commanded comparatively stiff prices. Oregon Burbanks are coming forward in moderate quantity, although not meeting with a favorable market. Sweet potatoes were in increased receipt and were offered at reduced figures.

## POTATOES.

Sacramento River Burbanks.....	50 @	80
Salinas Burbanks, # cental.....	1 00 @	1 45
Petaluma and Tomales Burbanks.....	75 @	90
Oregon Burbanks.....	75 @	1 00
Sweets.....	1 25 @	1 50

## The Fruit Market.

## FRESH FRUITS.

Apples were in good supply, but there was no surfeit of high-grade stock. Choice to select Gravenstein and fancy Spitzenberg were in lightest stock and commanded best figures, being notably up to \$1 25 per box wholesale, and bringing as high as \$1 50 in a small jobbing way. Bellefleurs were offering in considerable quantity, and for this variety \$1.15 was about the quotable extreme in the wholesale market. There were heavy quantities of defective Apples, wormy and moth, and for this class the market was decidedly weak, with prices irregular and the movement of the fruit very slow. Growers should keep this trashy fruit off the market, as it brings little or nothing beyond freight and handling charges, besides having a bad effect on the general tone, often interfering with the advantageous sale of better goods. Pears of late varieties were in fair supply, with demand not very brisk, and only for strictly choice did the market show firmness. Peaches were in reduced receipt and a few choice mountain sold at advanced figures. Quinces moved slowly at a low range of prices. Pomegranates were in ample stock for the rather limited demand for this fruit, prices continuing quotably about as last noted. Choice Plums and Prunes were in light receipt and market tolerably firm. Table Grapes arrived rather freely and market favored buyers, especially for other than strictly fancy. Wine Grapes were in larger supply most of the week than was warranted by the limited local demand, being mainly from Italian families. Berries were in light receipt, and choice brought in a limited way tolerably good figures.

Apples, fancy, # 4-tier box.....	1 10 @	1 25
Apples, good to choice, # 50-box.....	65 @	90
Apples, common to fair, # 50-box.....	30 @	60
Cantaloupes, # crate.....	1 00 @	1 75
Figs, Black, # box.....	40 @	1 00
Figs, White, # box.....	35 @	75
Grapes, # crate.....	40 @	75
Grapes, # small box.....	30 @	45
Grapes, # large open box.....	40 @	90
Grapes, Royal Isabella, # crate.....	75 @	1 00

Grapes, Zinfandel, # ton.....	21 00 @	23 00
Nutmeg Melons, # box.....	40 @	75
Peaches, # box.....	35 @	75
Pears, Winter Nellis, # box.....	1 00 @	1 25
Pears, other varieties, # box.....	40 @	85
Plums, Coe's Late Red, # box.....	40 @	50
Pomegranates, # regular box.....	75 @	1 00
Prunes, # box.....	40 @	75
Raspberries, # chest.....	4 00 @	6 00
Strawberries, Melinda, # chest.....	2 50 @	5 00
Watermelons, # 100.....	5 00 @	15 00
Whortleberries, # lb.....	7 @	9

## DRIED FRUITS.

The market for evaporated and dried fruits is in the main firm and the movement outward fairly active, both by sea and rail. About the only noteworthy exception in the matter of firmness is the market for Apples, which, in sympathy with the conditions East, is tending against the selling interest, but cannot be said to be materially lower, particularly for choice to select evaporated in boxes, this description receiving for the time being the most attention. As regards strength, Apricots and choice Pears are taking the lead, both being offered sparingly and are in good request at full current rates, with a possibility of higher figures being obtained for desirable lots than it would be safe to quote in a regular way. High-grade Pears are exceedingly difficult to obtain in the local market in anything like wholesale quantity, and there are no evidences of many being held in the interior. Pitted Plums are in very light stock and are salable to advantage, especially good to choice red or yellow. Nectarines are not receiving much attention, although there are not many offering, and with anything like active inquiry values would be likely to speedily harden. Pressed Figs have been meeting with prompt sale and current values for same are being well maintained. For ordinary sun-dried Figs there is no very active inquiry, neither are there many of this sort on the market. In Prunes recent business has been mainly in the product of outside districts on the 2 1/2 c. basis for the four sizes in bags. Santa Claras continue to be steadily held, with 3 c. an inside quotable figure for the four sizes. Shipments for the week include 88,667 lbs. old Prunes by steamer to Germany, and 31,875 lbs. dried fruit, principally Prunes, by steamer to Montreal.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/2 @	5
Apples, extra choice to fancy, 50-lb box.....	5 1/2 @	5 1/2
Apricots, Moorpark.....	8 @	11
Apricots, Royal, good to choice, # lb.....	7 @	8
Apricots, Royal, fancy.....	8 1/2 @	9
Figs, 10-lb box, 1-lb cartons.....	60 @	75
Nectarines, # lb.....	4 @	5
Peaches, unpeeled, fair to good.....	4 1/2 @	5
Peaches, unpeeled, choice.....	5 1/2 @	6
Peaches, unpeeled, fancy.....	6 1/2 @	7
Peaches, unpeeled, extra fancy.....	7 1/2 @	8
Peaches, peeled.....	10 @	12 1/2
Pears, halves, fancy.....	9 @	10
Pears, halves, choice.....	8 1/2 @	7 1/2
Pears, halves, fair to good.....	5 1/2 @	6 1/2
Plums, Black, pitted.....	5 @	6
Plums, Red and Yellow.....	7 @	8
Prunes, Silver, good to fancy.....	5 @	7
Prunes, in bags, 4 sizes, 2 1/2 @ 3; 40-50s, 4 1/2 @ 4 1/2 c; 60-80s, 4 @ 4 1/2 c; 80-100s, 3 1/2 @ 3 1/2 c; 70-80s, 3 1/2 @ 3 1/2 c; 80-90s, 2 1/2 @ 2 1/2 c; 90-100s, 2 @ 2 1/2 c; small, — @ — c.		

## COMMON SUN-DRIED.

Apples, sliced.....	3 1/2 @	3 1/2
Apples, quartered.....	3 1/2 @	3 1/2
Figs, White, in bulk.....	3 @	4
Figs, Black, in sacks, # lb.....	3 @	4

## RAISINS.

Numerous orders have been booked for new crop Raisins at the prices lately announced by the Growers' Association. Particularly has the demand been active for seeded stock, offerings of which are limited at the figures named.

On Saturday, Sept. 26, the California Raisin Growers' Association named the following prices on Raisins, f. o. b., common shipping points. Terms cash, less 4%:

	Per 20-lb. Box
Imperial Clusters.....	\$3.00
Dehesa Clusters.....	2 50
Fancy Clusters.....	2 00
3-Crown London Layers.....	1 55
2-Crown London Layers.....	1 45
	Per lb.
4-Crown Standard Loose Muscatels.....	7c
3-Crown Standard Loose Muscatels.....	6 1/2 c
2-Crown Standard Loose Muscatels.....	6 1/2 c
Seedless Standard Loose Muscatels.....	5c
Seedless Standard Loose Muscatels.....	5c
Floated.....	5 1/2 c
Seedless Standard Sultanas.....	5c
Thompson Seedless, Standard.....	6c

The following quotations on seeded are for a limited quantity only:

## SEEDED.

Fancy, 16-oz., per lb.....	7 1/2 c
Fancy, 12-oz., per pkg.....	6 1/2 c
Choice, 16-oz., per lb.....	7 1/2 c
Choice, 12-oz., per pkg.....	6 1/2 c
Fancy, bulk, per lb.....	7 1/2 c
Choice, bulk, per lb.....	7 1/2 c

## CITRUS FRUITS.

There is little doing in Oranges beyond the filling of an occasional small shipping order. Late Valencias are offering in moderate quantity. New crop Navels are expected to put in an appearance the current month, thus leaving no gap between the old season and the new. Lemons are in fair supply and are offering at some-

what easier rates, with demand not very brisk. A fresh invoice of Limes is due; previous stocks about exhausted; no change in price anticipated.

Oranges, Valencias, # box.....	1 25 @	2 50
Lemons, California, select, # box.....	2 50 @	2 75
Lemons, California, good to choice.....	1 75 @	2 25
Lemons, California, fair to good.....	1 25 @	1 75
Grape Fruit, # box.....	1 50 @	2 50
Limes, Mexican, # box.....	4 50 @	5 00

## NUTS.

Market is ruling steady for Almonds, offerings being light. There are no Walnuts left in the hands of the Southern Growers' Associations. Naples product is reported offering in New York at 12c to arrive this month. Some new crop California-Italian Chestnuts have arrived and are meeting with a fairly good market.

California Almonds, shelled.....	15 @	18
California Almonds, paper shell.....	9 @	11
California Almonds, soft shell.....	7 @	8
California Almonds, hard shell.....	5 @	6
California Walnuts, soft shell.....	13 @	14
California Walnuts, standard.....	1 1/2 @	1 1/2
Chestnuts, California-Italian, # lb.....	15 @	17 1/2
Peanuts, fair to prime.....	4 1/2 @	5 1/2
Peanuts, Eastern, band-picked.....	5 1/2 @	6 1/2

## WINE.

Little doing at present in the way of wholesale transfers of wine from growers. Dry wines of last year's vintage are mostly out of first hands or are held above the present market. Quotable values for dry wines of 1902 remain nominally at 15@18c, per gallon. The grape market is somewhat firmer than at beginning of the season, better prices prevailing in many instances than fixed by the Wholesale Dealers' Association. In Sonoma county grapes are bringing \$16@17 per ton from independent buyers, and in Napa county \$17@18 is being paid. The steamer Minnetonka, sailing on the 1st inst. for New York, carried 3788 barrels and 30 octaves wine. The steamer Newport, sailing on the 3rd inst., took 117,352 gallons and 72 cases, mainly for New York. A grain ship clearing for London carried 9300 gallons. Receipts of wine at San Francisco last week were 252,900 gallons, and for month of September aggregated 1,148,000 gallons.

MR. RAY STANNARD BAKER's article on "The Great Northwest," which has been appearing in The Century during the past year, succeeding his series on "The Great Southwest," which that magazine published the year before, will continue his notes on those regions in occasional papers to appear during 1904 in the same magazine. He will discuss "The Railroad" as a feature of Western life; also "The Western Spirit of Restlessness," and other "characteristics."

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING SEPTEMBER 22, 1903

739,632.—TROLLEY CATCHER—J. V. Ainsworth, Los Angeles, Cal.
739,531.—FRUIT DIPPER—H. M. Barngrover, San Jose, Cal.
739,281.—FURNACE—Blanchard & Williams, Dillard, Or.
739,532.—GAS GENERATOR—F. M. Caler, Los Angeles, Cal.
739,647.—HARP—J. E. Childs, Spokane, Wash
739,294.—ROAD SPOOL—W. H. Corbett, Portland, Or.
739,590.—CATTLE GUARD—W. von Daake, Vancouver, Wash.
739,402.—STEREOSCOPE—T. B. Eastman, S. F.
739,662.—EXHIBITING BOX—Francisco & Martin, San Diego, Cal.
739,672.—ELECTRIC SWITCH—J. Harisberger, Seattle, Wash.
739,546.—OIL BURNER—W. F. Hogan, S. F.
739,676.—TREE SUPPORT—A. A. Hoyt, Watsonville, Cal.
739,419.—SCORIFIER TONGS—J. M. Hyde, S. F.
739,755.—WATER GATE—Martin & Ormond, Riverside, Cal.
739,701.—SEAL LOCK—D. E. McLaughlin, Tacoma, Wash.
739,337.—GAME—W. L. Newman, Panama, Nev.
739,339.—PHOTOGRAPHIC PROCESS—P. Ny, Berkeley, Cal.
739,340.—FURNACE—J. B. Orblson, S. F.
739,349.—GRAIN SEPARATOR—W. M. Russell, Walsh, Cal.
739,371.—DISK PLOW—Simeral & Wiggins, Salem, Or.
739,454.—CASING SPEAR—Stockton & Helfenstein, Bakersfield, Cal.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

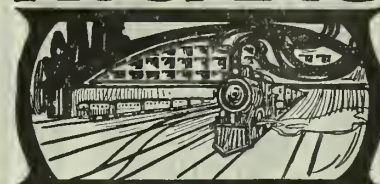
BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!

## MOTOR VEHICLE CO.

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

## MALTHOID ROOFING



Made of felt, thoroughly saturated with P & B compound. Not impaired by varying temperatures. Does not evaporate, crack, expand or contract. A low priced roofing that cannot be equalled. Send for booklet.

## The Paraffine Paint Co.

5 San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



**75%**

That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. **THIS MACHINE AND ALL**

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful **Direct Blast Blower Elevator.** SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities. Gen'l Agts. **HOOKER & CO.** 16-13 Drumm St. SAN FRANCISCO

Price, 10c in stamps

# GLENN RANCH,

Glenn County, :::: California

## FOR SALE

### In Subdivisions.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the western bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

## F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

FOR SALE.—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

**3-HORSE POWER**

**Webster Gasoline Engine.**

RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY. SEND FOR CATALOGUE. **WOODIN & LITTLE,** 312 Market St. San Francisco, Cal.



**SHARPLES**  
TUBULAR  
HAND  
AND  
POWER  
DAIRY  
SEPARATORS

The largest cream separator works in the world is unable to keep up with the demand for these superior machines. Thousands and thousands of Tubulars sold every year to dairymen in all parts of the earth. What does this demand mean? Why do the Tubulars sell better than other separators? Because they are better machines, as you will agree if you examine one. Write for free catalogue No. 131.

THE SHARPLES CO., Chicago, Illinois. P. M. SHARPLES, West Chester, Pa.

## HORTICULTURE.

### How a California Woman Succeeded in Fruit Growing.

The San Jose Mercury gives an interesting account of the experience of Mrs. K. C. W. Post of that city in fruit ranching. Mrs. Post in an English woman who came here a dozen years ago and bought a thirty-five acre Saratoga ranch with a heavy mortgage on it. The place was largely in vines, but it was reset to trees—prunes, peaches and apricots. She cleared the mortgage, bought another ranch of fifty acres on Mastic avenue, also heavily loaded, and has half lifted this, too. Both places are now in full bearing, and on the latter ranch improvements have been put on to the value of \$10,000.

A Mercury representative was favored a day or two ago with an interview, in which Mrs. Post told how she managed to prosper so well, and how others may expect to do similarly. She said:

"Yes, I've lived in California now about thirteen years. I had always a desire to visit the Pacific Coast, so one fall, after spending some time in the Yellowstone Park with a party of friends, I came on west with them. We were charmed with Seattle and Tacoma, and Oregon came in for some of our admiration, so much so that near Salem I made my first investment in twenty acres of land. But that was before seeing California. I had never even heard of San Jose, but some of our party said: 'Oh, we must be sure and see San Jose, for that is where they dry the fruit and have big wineries and many interesting things. We never can leave the State without going there.' So to San Jose we came, and, well, I've been here fruit raising ever since. Of course, a real estate agent drove us around the farms and orchards, and when this gentleman showed me a very pretty place and told me that it would net me \$100 per acre, why, I believed every word that he said, and bought the place that day—and to show you that real estate men never tell the truth, I found at the end of the season that I lacked just \$98 of the \$3500 he had said the ranch would produce."

WHAT PLUCK DID.—"Probably you had had early experiences in farm life?" suggested the reporter.

"I had never lived in the country, that is, on a farm, before. I knew nothing whatever of fruit raising. I could not tell one fruit tree from another, but then I always felt sure that if Mr. So-and-So could do so and so, why, so could I, and I started in to learn all I possibly could of every detail of my business."

"My thirty-five acre ranch when I bought it had a \$7500 mortgage on it, and I knew that if I paid that out of the proceeds of the ranch, as I intended to do, I would have to be very business-like."

"So I started a set of books, and it was a wise beginning. In that way I knew to a penny just what my horses cost to keep, what my help cost, what it cost me to harvest so many acres of apricots, what it cost me to harvest so many acres of prunes, and so on through the many different varieties; then I

could compare one year with another and see many mistakes and remedy them.

"The second year of my ranching I concluded to dry my own fruit. I had every pound of it weighed into the dryer as carefully as if I was selling it green. Then I weighed one tray to see just what my shrinkage would be. Then I would note in my journal the best price I could have gotten for my product green. I knew exactly what it cost me to dry it, and the check received for my dried product told me in a moment what I had gained by drying."

"Ranching is a business and is like every other business. You must interest yourself in it and know the details of it, even if you do not choose to do it yourself at all times. For instance, I will give you an experience of my own. I could harness my carriage horse, but a double team I had never attempted, when one day my man came home so intoxicated that he could do nothing. No, he did do something, for he unharnessed the horses and unfastened every buckle there was in the harness and left it on the ground."

AN AWKWARD PREDICAMENT.—"I was wild, for there were peaches packed for shipment that had to go on that afternoon train, and if I was to take them in, and there was no one else, why I had no time to try and get the harness together even if I could. The only other man I had was a little Frenchman, who, though he had lived twenty years in America, could not speak a word of English, neither could he harness a horse. So I said to him: 'Now, Louis, you pick up all the pieces here and take them and the horses to—' (a good neighbor I had), and he will harness them for you while I dress, never thinking in my worry that the poor fellow could not make them understand."

"He did as I told him, and went to my neighbor's dryer, where there were about twenty young people around. He asked them most politely, he afterward assured me, to harness the horses, but they laughed at his dramatic air, for he favored them also with the story of my woes, and they could not understand one word, and the more he repeated the more they laughed, and the more they laughed the more the little Frenchman jumped around and told them what he thought of them. At last one of them took pity on him and gathered up the different straps that had got badly scattered by this time and brought the outfit, including straps, horses and Frenchman, back to me, when all was made plain, and I drove off with my peaches in triumph at last; but it was a lesson to me, and I now see to it that there is nothing on my places that if I cannot do myself I can show some one how it can be done. But, then, there is very little that I cannot do myself."

MORE MORTGAGES TO LIFT.—"It was not very long till I had that \$7500 mortgage all paid off, and then what must I do but go back to that real estate man and buy another ranch with another heavy mortgage, anchoring it down quite solid, which I have reduced already over one-half, and this year's bounteous crop will about wipe it out."

"You appear to enjoy your work," suggested the interviewer.

"Yes, indeed, I do," replied Mrs. Post. "It is such delightful, wholesome, cheering work. No fear of ingratitude. Every tree and shrub will repay you a thousand-fold for all your tender care, and every passing kindness is so deeply appreciated and repaid. Why, the trees I have planted myself and have watched grow year by year seem alive to me and like children to me."

"And I understand, Mrs. Post, that you have conducted this business entirely without assistance?"

"These ranches I have managed alone. I have always had to seek my own markets for my products, and have generally been well satisfied with the result at the end of the year."

"I know exactly what they cost me, what they produce each year, as I keep this business entirely separate from my other interests, and whether I shall buy yet another ranch remains to be seen."

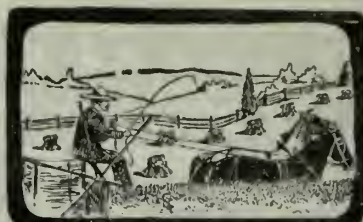
NOTE IT DOWN!

THE CREAM  
U.S. SEPARATORS  
ARE  
THE  
BEST



BUY ONE AND PROVE IT

We have the following transfer points: Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Montreal, Quebec, Sherbrooke, P. Q., Hamilton, Ont. Address all letters to Bellows Falls, Vt.  
Vermont Farm Machine Co.,  
Bellows Falls, Vt.



### The Golden Harvest

will bring more gold to the farmer if he uses complete fertilizers containing not less than 6% actual

**Potash**

The importance of Potash in grain culture is explained in our books which we mail free to all farmers who write for them.

GERMAN KALI WORKS,  
93 Nassau Street, New York.

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

School of Practical, Civil, Mechanical, Electrical  
and Mining Engineering,

Surveying, Architecture, Drawing and Assaying.  
113 FULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

Open All Year. : A. VAN DER NAILLEN, Pres't.  
Assaying of Ores. \$25; Bullion and Chlorination  
Assay, \$25; Blowpipe Assay, \$10. Full course of  
assaying, \$50. Established 1864. Send for Circular.

Money makes the mare go, but it takes a De Laval to make cows pay.

## When 400,000 Farmers

scattered all over the world prefer one make of Cream Separator to all other kinds, it goes without saying that the Separator of their choice must be vastly superior to the other machines.

This is the history of the

## DE LAVAL CREAM SEPARATOR

which possesses the "Alpha-Disc" and "Split-Wing" improvements, and these 400,000 farmers are finding the DE LAVAL CREAM SEPARATOR the best investment they ever made in dairying.

Might not this be true with you, too?

If you need anything in the way of Dairy Supplies, write to us. We carry the largest stock of dairy apparatus and supplies on the Pacific Coast.

Our new "20th Century" Catalogue sent on request; a lesson in dairying on every page.

## DE LAVAL DAIRY SUPPLY COMPANY,

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

Cows and a De Laval Separator make the successful dairyman.

FOR INFORMATION REGARDING  
PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,

Write KROGH MFG. CO.,  
519 MARKET ST., SAN FRANCISCO.

GREENBANK BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.





## Curb, Splint,

contracted cord, thrush, grease heel and all forms of lameness yield readily to

### Tuttie's Elixir.

Used and endorsed by Adams Express Co. Reading Trotting Park, Mass., Aug. 31, 1899.

Dr. S. A. Tuttle, V. S.  
Dear Sir:—I want to add my testimony to your list recommending Tuttie's Elixir for curbs, broken tendons, thrush, and nicks in the feet. I have used it on all of these cases many times, and never failed to make a cure.

J. H. NAY,  
Given internally it is sure cure for Colic, Distemper, Founder, Pneumonia, etc.

TUTTIE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. KILLS PAIN INSTANTLY. Our 100-page book, "Veterinary Experience," FREE.

Dr. S. A. TUTTIE, 33 Beverly St., Boston, Mass.

487 O'Farrell St., San Francisco, Cal.

Beware of so-called Elixirs—none genuine but Tuttie's. Avoid all blisters; they offer only temporary relief, if any.



BY ONE MAN. It's KING OF THE WOODS. Saves money and backache. Send for FREE illus. catalogue showing latest improvements and testimonials from thousands. First order gets agency. Folding Sawing Mach. Co., 55 N. Jefferson St., Chicago, Ill.

## AGRICULTURAL ENGINEER.

Why Farmers Should Favor Government Co-operation for Good Roads.

By COL. J. B. KILLEBREW of Tennessee.

The rapidity with which the sentiment in favor of national aid to the common roads of the country has spread, and the eagerness with which the proposition is welcomed since the introduction of the Brownlow bill in Congress, have not only been highly gratifying to the friends of the measure, but surprising and astonishing to its opponents. The truth is the great body of farmers of the land are slow in demanding what they are justly entitled to. Had the same necessity as the want of good roads among farmers existed in relation to the manufacturing, mining or commercial interests of the country, such a necessity would have long since been recognized and met by adequate appropriations from Congress. The tillers of the soil do not work in concert for their own advancement. By the census of 1900 the whole number of people above the age of ten years engaged in gainful occupations in the United States was 29,074,117. Of this number 10,381,765 were engaged in agricultural pursuits. No other specified occupation employs so many. The manufacturing and mechanical pursuits employ 7,085,992 persons, trade and transportation 4,766,964, and professional service 1,258,739. And yet the farmers of the country, who contribute more to its permanent prosperity than all other classes combined, have the smallest amount of consideration in the matter of Congressional appropriations. In all the history of the past legislation of the country but few efforts have been made to equalize the benefits of Congressional appropriations. Until the rural mail routes were established a citizen living in the country rarely received direct benefits from the money expended by the general government, except that for the Agricultural Department.

The commerce of the country felt the exuberance of fresh and lusty life and vigor from the improvement of the rivers and harbors, but this exuberance would have been vastly increased had half the money appropriated for rivers and harbors been applied to aid in the improvement and maintenance of the public roads, the very foundation of commerce.

It must not be imagined that anyone proposes that the Government shall enter upon the work of building public highways without the co-operation of the State, county or other political subdivision. The policy of the Government should be to help those communities that help themselves, to stimulate action and enterprise, rather than to repress it by appropriating money to those communities that do nothing for themselves.

### A Fine Water Plant.

To those interested in the irrigation of small tracts of land in this vicinity by the pump system, says the Chico Record, a visit to the plant of Messrs. Roper & Knowlton in Chico Vecino will prove of value, for here may be witnessed a practical demonstration of the feasibility of such irrigation by water raised from a well 25 feet in depth. Early in the spring they purchased a full block in Chico Vecino, laid the grounds off in walks and drives and planted numerous shade and fruit trees and ornamental shrubs. It was their plan to irrigate these from a deep well by means of a motor and pump. They began the boring of the well, but their workmen with tools at hand found it impracticable to go to the depth desired, which was from 70 to 100 feet.

A second well was then dug, and when 25 feet had been excavated an ancient creek was encountered, and a great rush of cold, springlike water poured into the excavation. So great was the flow that only 2 feet farther could be dug, making the present depth of the well, which is 6 feet in diameter, 25 feet.

A few feet to one side of the well a tank house was then erected, a redwood tank of 5300 gallons capacity installed at a height of 51 feet, and a pump and 2 H. P. electric motor installed. The floor of the tank house is of solid concrete and the pump and motor set in concrete, so that when running there is not the slightest vibration. The well is probably the most interesting. It has an outside rim of thoroughly washed gravel, and is bricked and cemented throughout, iron bars set in the cement forming a permanent ladder. On the top is kept a solid stone cap. Not a particle of foreign matter can possibly get into the well and there is no wood in it.

The pump and motor have a capacity of 8000 gallons per hour, and this can hardly keep up with the flow into the well. The pump, however, is kept running at 4000 gallons per hour, as this is found to be sufficient for present needs.

The tank has a double rim, making it perfectly water tight. From the tank an automatic device, the invention of Mr. Knowlton, controls the motor. When the tank is full this device automatically opens the switch and stops the motor. Likewise, when 2500 gallons have been drawn from the tank the switch is closed and the pump resumes work. Water can also be pumped direct into the mains leading over the block when deemed necessary.

The plant in its entirety is unquestionably the most complete in this section of the State. It was planned by Prof. Knowlton, and much of the mechanical work was done by him, and he is justly pleased at the results attained.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

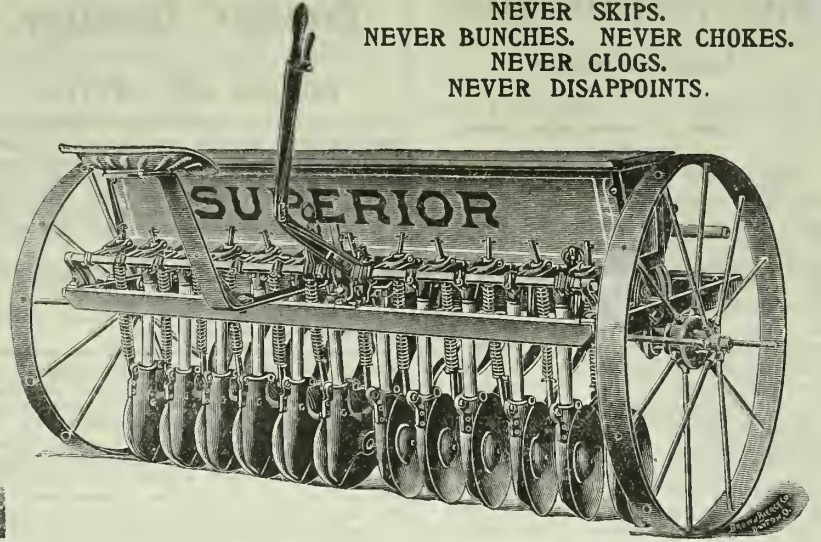
The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS  
**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

NEVER SKIPS.  
NEVER BUNCHES. NEVER CHOKES.  
NEVER CLOGS.  
NEVER DISAPPOINTS.



## The Superior Single Disc Drill.

CONSTRUCTED OF THE BEST MATERIAL MONEY WILL BUY.

### SUPERIOR SPECIAL FEATURES:

Broad-Tire Wood or Steel Wheels. Both Wheels Drivers.

Solid Steel Frame. Rear Lift. Perfect Balance. Light Draft.

Perfect Double Tree Hitch. Detachable Grass Seeder.

Draw Bars Made of High Carbon Steel. Each Disc and Drag Bar Independent.

Disk Wheel for Changing Quantity Without Change of Parts.

Perfect Direct Spring Pressure.

Pull Rod to Shut Off Feeds Without Raising Discs from Ground.

SEND FOR CATALOGUE.

## The H. C. Shaw Co.,

AGENTS, STOCKTON, CAL.



## PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue, with Prices.

BURNHAM-STANFORD CO.,

Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.

San Francisco Office, 40 New Montgomery St.

## Why Use Expensive Power?

PUMP, SPRAY, SAW WOOD, CUT FEED, CHURN, and do any other work better and cheaper with a

## 20th CENTURY WONDER

than you have ever done before.

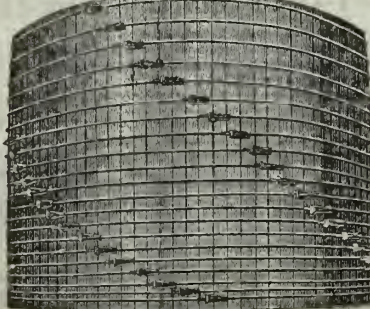
USES FUEL AT 2c. TO 5c. PER GAL. 1½ TO 30 H. P. SIZES.

WRITE AT ONCE.

WONDER ENGINE CO, 321 Mission St., San Francisco.

## OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

## The Excelsior Redwood Co.

SOLE MANUFACTURERS,

Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.



## THE VETERINARIAN.

## Answers to Inquiries.

By E. J. CREELY, D. V. S., Dean of S. F. Veterinary College, 510 Golden Gate Avenue.

## TREATMENT FOR SKIN TROUBLE.

TO THE EDITOR:—I have two mares that I have been working all summer, feeding about one-half gallon of rolled barley twice a day and all the oat hay they want. They are in fine order and seem in perfect health, except they both have an itch. The hair comes off on neck and head in small bits the size of a dime, and on the center of the belly, full length, there seems to be a scab. They appear to be in misery, especially when heated up from work. They will bite themselves and rub almost all the time when tied up. I wish you would tell me what the disease is and also a remedy. Is it catching? I was told it was mange and a party gave a remedy, but it did no good.—HORSEMAN, Auburn.

Give internally 1 ounce Fowler's solution of arsenic once daily. Apply externally Langley & Michaels' cresoleum; 1 part oil. Apply once daily.

## TREATMENT OF HORN TISSUE ON LEG.

TO THE EDITOR:—Can you tell me of some remedy through the columns of the PACIFIC RURAL PRESS for the following: About one year ago one of my horses became entangled in his tie rope, getting his hind leg over the rope and burning his fetlock, so that there is now a hard, bony substance there, and his leg is always swollen; but he is not lame. I would like to know of some simple remedy to take off this hard substance and also to reduce the swelling. He is a driving horse.—SUBSCRIBER, Knight's Ferry.

You can not reduce the swelling, as no doubt it is a chronic attack of cellulitis. The horny substance can be removed with a knife, after which control the granulations by using stick nitrate of silver once daily.

## ANOTHER SKIN DISEASE.

TO THE EDITOR:—Something has got into my horse's tail and mane, making lots of scurf, and the hair is coming out. Please give remedy, and, if infectious, what to disinfect with the stable and harness.—HAYSEED, Oleander.

Give internally teaspoonful saltpeter two times daily. Wash and scrub thoroughly once daily with tar soap, after which rub well into the roots:

Camphor, ½ oz.  
Carbolic, ½ oz.  
Olive oil, 12 ozs.  
Oil of cade, 4 ozs.

## TREATMENT FOR MANGE.

TO THE EDITOR:—What is the best for mange on a horse when the disease has been on the animal for about eight months?—J. F. W., Malaga, Fresno county.

Apply two times daily to the spots a 1% solution of formaldehyde, after thoroughly washing.

## SOME ADVANTAGES.

The Rio Grande Valley, near El Paso, has several advantages over the more thickly settled districts of California, Colorado and other parts of the arid West. It has a most favorable and agreeable climate, a soil whose fertility is maintained by irrigation with the muddy water of the Rio Grande, superior market facilities (8 railroads) and lower priced lands. Small farmers who for any reason are not quite satisfied with their present location are urged to investigate the Rio Grande Valley. For booklets and maps (free), write to Chamber of Commerce, El Paso, Texas.

## WANTED

A COMPETENT FAMILY MAN WITH EXPERIENCE in orchard and farm work to take charge of 2400 bearing trees and eighty acres of good land, on shares. Location very healthy and twenty minutes ride from Vacaville.

Apply to Box 55,  
Sacramento, Cal.



**RED CROSS WIND MILLS**  
ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURN-TABLE. SEND FOR CATALOGUE. MAILED FREE.  
WOODIN & LITTLE,  
312 Market St. San Francisco, Cal.

## Breeders' Directory.

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr.-old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr.-olds, 21 Jerseys and Durhams competing. F. H. Burke, 80 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. O. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. O. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINA FOR** "ALE, either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUDCO HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**C. B. CARRINGTON** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$90.00 per 1000. Send for folder giving prize record from 1899 to Sept. 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Bellpae Aluminum Leg Bands; sample 2 cts.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## SHEEP AND GOATS.

**FOR SALE**—Two fine thoroughbred Southdown yearling rams. Won 1st and 2nd premiums State Fair 1901. Perkins & Co., 1023 J St., Sacramento, Cal.

**C. P. BAILEY & SON'S CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in... **POULTRY SUPPLIES** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**FOR SALE.** Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.  
Phone RED 123. J. W. McCORD, Hanford, Cal.

**BULLS FOR SALE.** Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at CHOWCHILLA STOCK FARM.  
Address... ISAAC BIRD, Merced, Cal.

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

ALLISON, NEFF & CO.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY  
N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES. Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.  
THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the Mining and Scientific Press. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

DEWEY, STRONG & CO.

(ESTABLISHED 1880.)

PATENT AGENTS.

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.

The Fresno Scraper.

3 1/2 - 4 - 5 Foot.



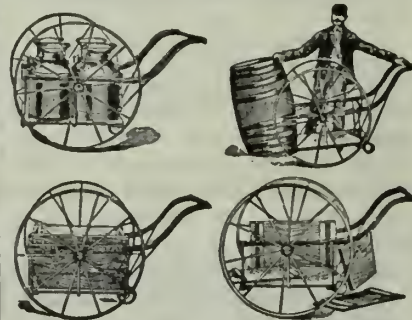
FRESNO AGRICULTURAL WORKS,  
FRESNO, CALIFORNIA.

The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.

Single and Double Acting Deep Well Pumps of the highest efficiency. STEAM AND GEARED PUMPS pumping water supply for cities, railroads and factories. THE DOWNIE PUMP COMPANY. Box 21, Downieville, Pa.



No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15. Handles barrels or four large milk cans. Steel frame and steel wheels.

HOOKER & CO.

16 & 18 DRUMM ST., SAN FRANCISCO, CAL.

## WEATHER VANES



WAGON and PORTABLE SCALES.

HAND, PLATFORM and SPECIAL TRUCKS.

HALL'S SAFES, The Standard for Over Sixty Years.

COFFEE MILLS, MONEY DRAWERS, Etc.

HOWE SCALE CO.

12 & 14 Pine St., San Francisco. Phone Main 1305.

## THE "BOSS"

TREE PROTECTOR.

Made of Yucca Palm.

Is cheap, durable, and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

PRICES:

12	inches long,	\$ 9.00	per 1000.
14	" "	10.00	" "
16	" "	11.50	" "
18	" "	12.50	" "
24	" "	15.00	" "
30	" "	17.50	" "

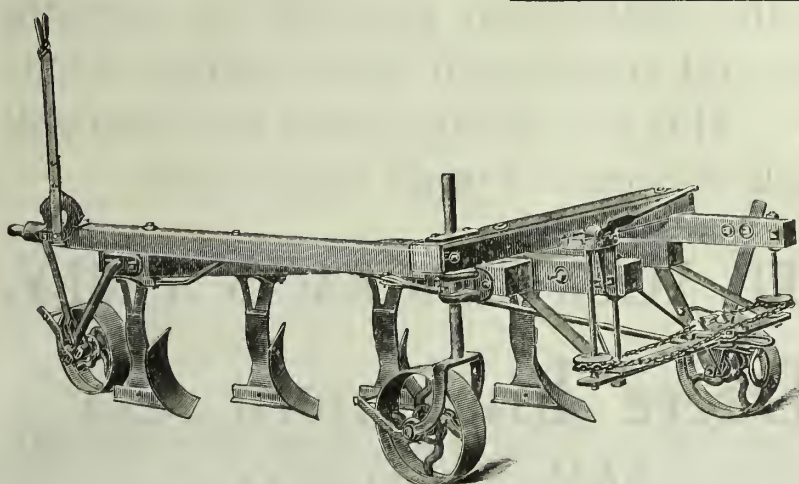
Agents Wanted Everywhere.

YUCCA MANUFACTURING CO.,  
450 SANTA FE AVE., LOS ANGELES, CAL.

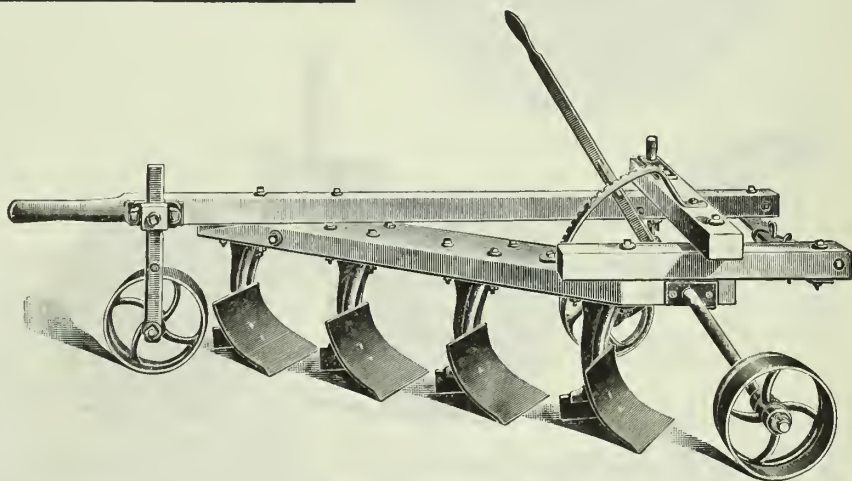


# DISC PLOWS vs. MOLDBOARD PLOWS.

The Benicia-Hancock Disc Plow  
HAS PROVED TO BE SUCH A REVELATION  
IN THE PLOWING LINE  
THAT WE ARE OFFERING REVERSIBLE MOLD GANGS  
AT SPECIAL LOW PRICES.



FOR FIELD USE.

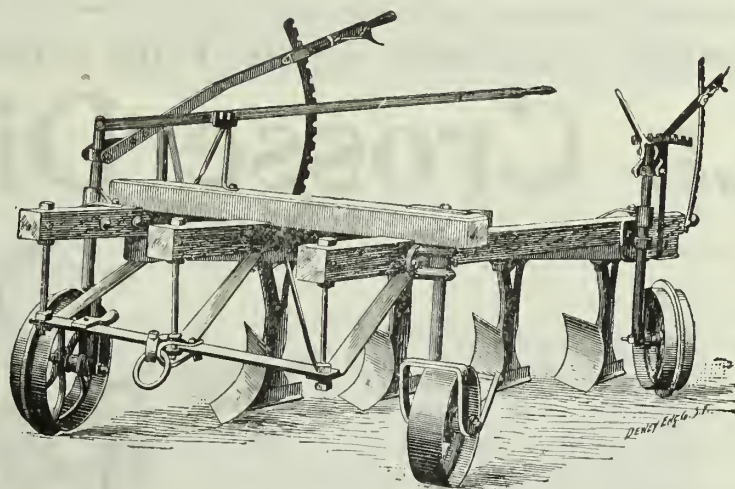


FOR ORCHARD USE.

—THE—  
**DeWitt Attachment**  
IS INDISPENSABLE.

Is fitted with either plain or flanged wheels.  
Can be fitted to all Sulky Plows.  
Best adapted for Gang Plows.  
Cut shows same as used on Stockton Gang.  
Can be fitted to either front or rear wheels.

ASK  
YOUR DEALERS  
FOR IT.  
ORDER EARLY.



SHOWING THE DeWITT ATTACHMENT.

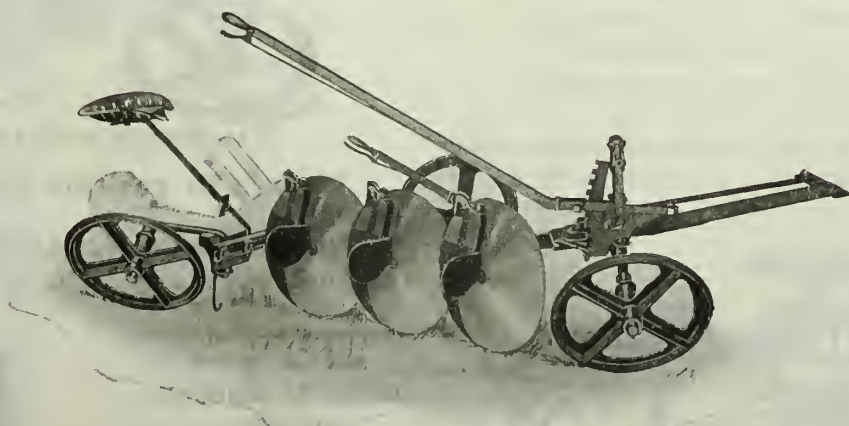
—THE—  
**DeWitt Attachment**  
PERFECTS A PLOW.

Keeps the plow straight on the side hill.  
Plow is readily guided on the level.  
Levers are convenient for raising, lowering,  
or turning.

PUT IT  
ON ALL YOUR  
WOOD BEAM  
GANG PLOWS.

The  
Benicia-Hancock  
Disc Plow  
Leads;  
others are trying  
to follow.

Buy a plow that  
has PROVEN to be a  
success in ALL  
conditions.



THE BENICIA-HANCOCK 3-DISC PLOW.

Write for  
information on  
everything in the  
plow line.

Have you thought  
you could use  
a  
Reversible  
Disc  
Plow?

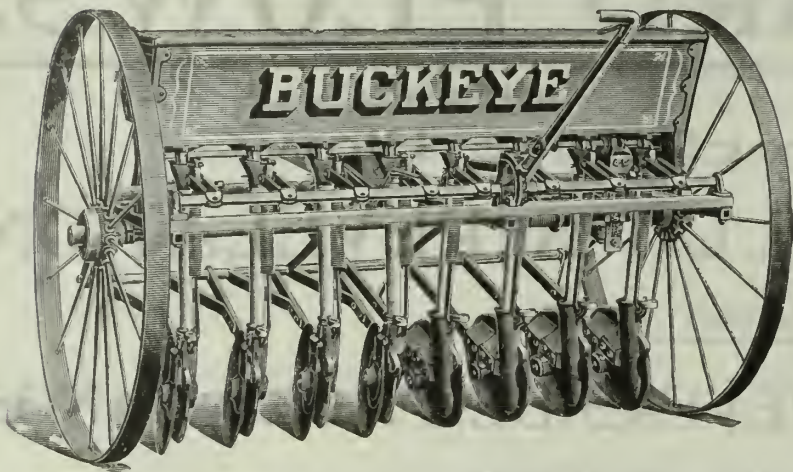
—SOLD ONLY BY AGENTS.—

**Baker & Hamilton,**  
SAN FRANCISCO, SACRAMENTO, LOS ANGELES, PORTLAND, ORE.

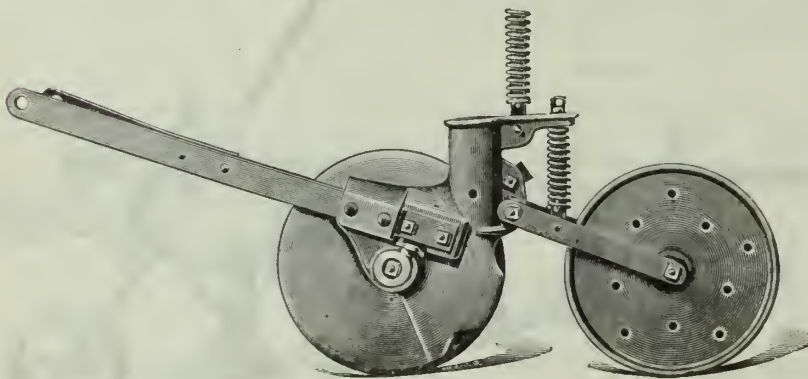


# BUCKEYE

STEEL FRAME HOE, SHOE AND DISC



STEEL FRAME DISC DRILL.



Cut showing Buckeye Disc and Boot. It will not choke up in wet ground between the disc and boot.

## GRAIN DRILLS

Have all the latest improvements in seeding machinery.

Frames are made of square steel tubing, which actual tests have proved to be the strongest, most rigid and best material obtainable for the purpose. The feed cups are the double-run principle for sowing large and small grain with uniform accuracy. This is a positive force feed and will handle all kinds of grain successfully.

MAKE YOUR CONTRACTS EARLY.

Deere Implement Co.

SAN FRANCISCO.

(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

## Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

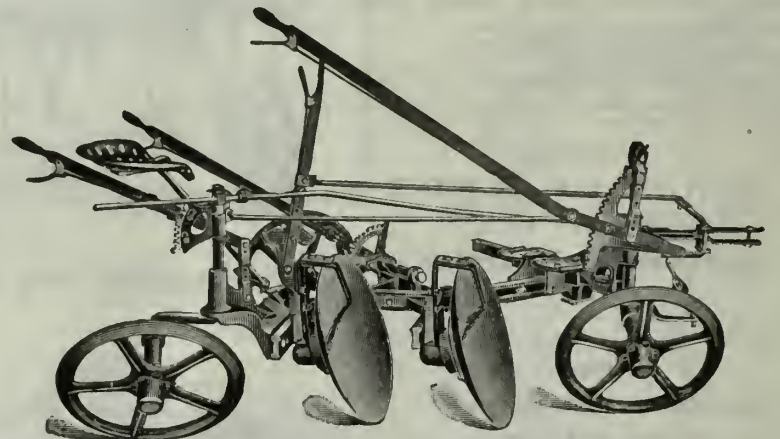
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

If the draft is *one horse lighter* than on any other?

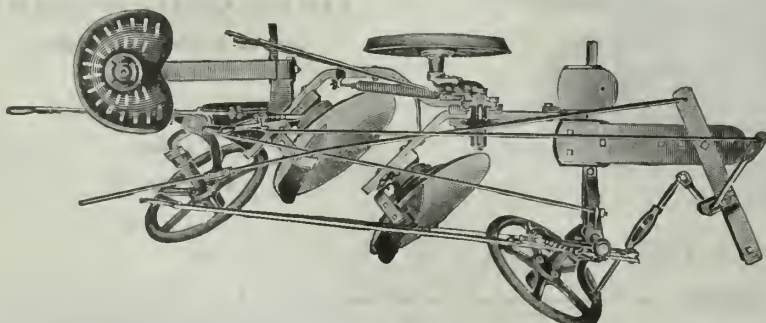
If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



THE  
**PACIFIC RURAL PRESS**  
AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 15.

SAN FRANCISCO, SATURDAY, OCTOBER 17, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### The White Leghorn in California.

The White Leghorn is the great commercial fowl of California. Other breeds are not neglected, but are, in fact, widely distributed and in many instances largely grown for profit and successfully bred for notable excellence and practical value, but the White Leghorn is prominent as an egg producer and the largest poultry enterprises in all parts of the State are upon the basis of this breed. In the Petaluma district, for example, there are nearly a million White Leghorns. This striking fact impressed itself upon Director W. A. Henry, of Wisconsin, who our readers will remember visited California last year, and, in writing an outline of his impressions, said: "The White Leghorn is Petaluma's favorite fowl. This fact was made plain to us early during our sojourn. Here and there everywhere on the hillsides and about the homes could be seen beautiful white

ranchers because it is vigorous, thrifty and, above all, an excellent layer. Petaluma poultrymen are primarily egg producers, and the White Leghorn seems to come nearest to filling this requirement."

But though the birds all through the State are recognizable as White Leghorns, they are not all the best of the breed. As to this difference we allude again to Director Henry's observations: "When one visits different stock farms he soon comes to observe how the same breeds of cattle will vary on different farms, according to the judgment and business ability of the owner. There was just the same striking difference observed with Leghorn fowls about Petaluma. In some yards the birds were not particularly large or attractive; in others fine specimens of true form, with the healthiest of combs and plumage, charmed the visitor. One would not believe that such striking differences could be possible within so limited an area as we here observed." This is a very ac-



Castro—A Noted Prize Winner.

near San Francisco, and the flock of White Leghorns have an unlimited range under shady fruit trees. The special few—the winners and parents of winners—are alone kept under confinement during the hatching season. One of the pictures shows a group of the breeding pens, with two of the prize-winning cocks showing well in the foreground.

Mr. Carrington's aim as a breeder has been to combine utility and show points; to get size and good laying qualities, combined with the beautiful shape and pure whiteness of the standard-bred bird. At the present time the flock numbers about a thousand and is likely to be greatly enlarged in the near future.

One of the pictures is a snapshot of Henry 2nd, winner of first prize as single-comb White Leghorn cock at State Fair, Sacramento, and also at the Oakland Poultry Show, 1903. At the latter show, in an exhibit of 2000 birds, he was the highest-scoring cock bird, scoring 95½ points—an exceptionally high percentage for a mature bird. He comes of a winning strain and his immediate parents were both winners. His sire, Henry, won first prizes both at the Oakland and San Jose poultry shows of 1901. Both these birds are of good size, as well as up in show points, weighing 6½ pounds apiece, and come of good laying stock. Both he and his father are products of California, being bred and owned by Mr. Carrington.

The growing popularity of agricultural education may be seen in the report from Italy that a bogus countess has been collecting large sums of money and has been able by personal charms and social standing to impose on all classes of society. The countess, through certain alleged benevolent projects, was able to number among her dupes judges, ministers, prelates, cardinals, and even the late Pope himself. One of her projects was to establish a college of agriculture to benefit the children of the poor. Through this scheme she was enabled to collect large sums of money from officers of the Government, from the Vatican and the Pope. What a bad use of a good cause!

QUITE a sensational feature of the anti-distillate issue in southern California appears in the statement that numerous orange growers in San Bernardino county threaten to bring suits against the county on the claim that trees have been killed and crops utterly ruined by the use of the distillate with which the Commissioners have been spraying trees. A local dispatch says that two weeks ago complaints began to reach the Supervisors, and recently as many as forty of the largest growers in the western part of the county have announced an intention to bring suit.



GENERAL VIEW OF FARM BUILDINGS.



BUILDINGS FROM ANOTHER POINT OF VIEW.



PART OF BREEDING PENS WITH PRIZE WINNING BIRDS.



NEARER VIEW OF FLOCK IN THE ORCHARD.

SCENES ON WHITE LEGHORN POULTRY YARDS OF C. B. CARRINGTON, HAYWARDS, ALAMEDA COUNTY.

birds, while few with any color to feathers were in evidence. The White Leghorn is chosen by the

curate observation and it is sometimes perplexing to decide why, as the White Leghorn fowl is so widely appreciated, all people do not make more effort to have the best White Leghorns. If all of the kind in the State could be brought up to the excellence of the best the State would be the better for it.

This leads to remark the valuable work which the professional breeders of White Leghorns, as of other breeds, have done in bringing their stock—by careful selection and mating, as well as by proper care and treatment—up to the highest type, and thus keeping within the reach of the commercial poultry producer a source of supply whence he can draw to improve the general quality of his flock. One man who has been working in this important line since 1888, with the advantage of insight, patience and favorable environment, is Mr. C. B. Carrington, of whose operations in Castro valley, near Hayward, Alameda county, we give some pictorial references on this page. These views will give the reader an idea of the place where many of the prize-winning White Leghorns of the Pacific coast are raised. It is situated in Castro valley, one of the prettiest spots



Henry II, First Prize Cock at State Fair and Oakland.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.

Publishers

E. J. WICKSON

Horticultural Editor

SAN FRANCISCO, OCTOBER 17, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Scenes on White Leghorn Poultry Yards of C. B. Carrington, Haywards, Alameda County; Henry H. First Prize Cock at State Fair and Oakland; Castro—A Noted Prize Winner, 241.

EDITORIAL.—The White Leghorn in California; Popularity of Agricultural Education; Distillate for Spraying Trees, 241. The Week, 242.

QUERIES AND REPLIES.—Pruning Apricots; Drying Apricots and Silver Prunes, 242. Winter Growing Manure Plants; Renewing Strawberry Beds; Antidote for Dodder; Protecting Young Orange Trees; The Flat Headed Borer; To Check Washing of Creek Banks; Aestivalis Hybrid, 243.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Oct. 12, 1903; Temperature and Rainfall, 243.

AGRICULTURAL SCIENCE.—Reclamation of Alkali Land at Fresno, Cal., 244.

THE DAIRY.—Advantages of Competitive Butter Tests, 244.

THE VINEYARD.—Grape Growing in the Santa Cruz Mountains; Claims Discovery of Cause of Vine Disease, 245.

FORESTRY.—California Forest Restoration and Extension, 245.

THE IRRIGATOR.—Reclamation Work in California; The National Irrigation Work, 246.

THE POULTRY YARD.—Geese Growing in California, 246.

HORTICULTURE.—Eastern Comments on the Loganberry; Fumigation Will Destroy Codlin Moth Eggs, 246.

AGRICULTURAL REVIEW.—247.

THE HOME CIRCLE.—Fair Day; A Culinary Waterloo; Looking for Flaws; Facts About Oyster Farms; Are You Full of Magnetism? 248. Luxuriant Hair; Make Exercise a Habit; Riddles; Humorous; Hints to Housekeepers; Domestic Recipes; Age Before Beauty, 249.

THE MARKETS.—Produce Market; Fruit Markets, 250.

FRUIT MARKETING.—Prunes in Europe; Investigation of the Eastern Fruit Trade, 252.

THE FIELD.—Dodder on Alfalfa, 252.

THE APIARY.—Central California Bee Keepers, 253.

THE VETERINARIAN.—Answer to Query—Acute Indigestion; Protest Against Unofficial Acts of State Veterinarian, 254.

PATRONS OF HUSBANDRY.—Tulare Grange; Growth of the Grange in California, 255.

## The Week.

The PACIFIC RURAL PRESS dons its new fall suit this week. It is not exactly tailor-made, but it is neat, shapely and close fitting and shows the form to good advantage, and in making up a handsome sheet form is very important. For this reason we rejoice in the new medium which the publisher has provided for the delivery of our message, and trust it may add to its acceptability to readers. California is making a clearer and more definite impression than ever before upon the world at large, and we would have our contribution thereto befit the effort and promote the interest which all true citizens hold in the progress of the commonwealth. That our journal is sharing in the prosperity which now gilds the western edge of the continental United States may be inferred from its enhanced typographical beauty and will be reflected, we trust, in its tone and spirit. During its long career the PACIFIC RURAL PRESS has embodied the two important factors of journalistic success: Honest and unstinted effort on the journal's part, generous and appreciative response from its supporters. In the possession of a responsive parish this journal has always been fortunate, and the investment involved in renewing the mechanical side of the enterprise is cheerfully undertaken by the publishers as a token of their recognition of the fact.

Wheat is in better tone this week. Speculative trading has been on the up grade most of the week and is firm at the close, though the closing prices are a shade lower than the highest point reached since our last report. Spot wheat is unchanged and is still above Eastern and European equivalents. Two spot charters have been made chiefly for barley to Europe at 13s 6d and 13s 9d, with wheat for stiffening at 11s 3d. There have been three clearances, part wheat, carrying 1000 tons, and five of barley, aggregating 10,760 tons—another quarter of a million's worth of California's growing contribution to European beer, while a good lot of flour has gone to China. Barley is firm, and higher grade feed, which can be cleaned and brought to serve the export de-

mand, has advanced in price. Oats are firm and active at old figures, while corn is dull and lower. Beans are steady at the recent decline, business being chiefly in the Whites, Pinks and Bayos. Limas are also lower here, but the chief trade is in the growing district in the south. Bran and middlings are firmer and stocks tight. Hay is firm and higher for all grades, especially for horse hay of the higher qualities. Beef and mutton are slow—the heated term dulls the appetites of the flesh eaters. Hogs are slightly lower for packing—the smaller hogs suffering most. Fresh butter has dragged badly and most of it is under choice grade. Stored butter is steady and the trade is running largely on it. Cheese is unchanged. Fancy eggs are scarcer and stiff—above quotations in some instances up to 50 cents. Stored eggs are going out at a wide range and some Eastern fresh eggs are here at 24 cents. Poultry is rather better—big hens and young turkeys, goslings and pigeons still in favor. Potatoes are no better and favor buyers, while onions are firm at their last advance. Some Oregon peaches have sold well. Apples have a wide range—say from 25 cents to \$1.25—the higher kinds selling best. Table grapes are a little better, especially for small packages, also some in bulk in open boxes are doing better for the hotel and restaurant trade. Wine grapes are dull and too many in mushy shape. Country sales of wine grapes are reported at better prices; owing to the bidding of independent buyers the combination has had to talk up. Lemons have done fairly, but stocks are too large, as there is only local trade. Dried fruits are firm and unchanged and a fair movement. Shipments have been made of 90,000 pounds of prunes, 259,000 pounds of other dried fruits, and 265,000 pounds of raisins to Australia. Nuts are firm and unchanged. Honey is in heavy movement, 953 cases going out for Europe mainly, but receipts are also large, and the market is easy in tone but not lower. Hop dealers seem to be running a bear movement and quotations are lowered. Wool buying is proceeding in the northern coast district, but nothing is doing here.

The State Grange meeting at San Jose last week, of which we have some interesting items on another page, was a very spirited and satisfactory meeting. A considerable gain in membership in subordinate Granges was reported, and gain has also been made in new Granges. A new set of State officers has been seated, and it is hoped they may push the good work along on the lines which have succeeded with the outgoing administration. One thing which the California Grange needs is to know how to catch on better along with other progressive agricultural movements, and to use the columns of newspapers better in setting forth the widely valuable and practical features of Grange work. If the subordinate Granges would follow the example of Tulare Grange, and use more hot sunlight and less moonshine, they would grow better. The Grange needs to be nearer to date in its methods of winning people. This generation does not catch in quite the same way that the last did.

On another page may be found a statement from high authority about the extension of national irrigation work in this State. In addition to impounding water on the east side of our Sierra Nevada for use in the State of Nevada, we are to have \$2,000,000 worth of work for water on our own arid lands. This is a good thing. It will mean not only the reclamation of a considerable area, but if done in the upper part of the State will indirectly accomplish more, for it will be a demonstration of the use of water in a region which now does not know how much better it is than an irregular rainfall. Such a demonstration is needed to set many private enterprises in motion.

And now the destruction of poultry and pet stock by automobiles along rural lanes and suburban streets is to be matched by another agency—the electric car line which carries its lightning on a third rail at the ground surface. An account from San Rafael says that the North Shore Railroad Company's new electric system is proving disastrous to dogs and other animals. Within the last twenty-four hours eight dogs have come in contact with the third rail and been killed. Hogs and chickens have met the same fate. The current is not sufficiently strong to kill a human being, but is death to small game.

The company uses 500 volts, and if this will not kill a man it would no doubt handle a kid as effectively as it does some of the animals mentioned above. Unless something is done to close in these blistering third rails the suburbs will lose their proud prominence as being good for the children.

On another page there is a statement emanating from the State Board of Trade which indicates that there are some bugs in the counting rooms of the Eastern trade in California fruit which are as destructive to the growers' proper recompense as are the bugs on the trees at this end. The Board of Trade proposes to employ the same method of bug hunting there which succeeds here—it proposes to smoke 'em out. This fumigation will be looked for with much interest by all in the fruit interest. There has certainly been too little for the grower in this business all along, and now that Eastern fruit merchants are fighting at law over the division of their spoils we may find out something mighty interesting. We hope the Board of Trade's special investigation will get there. Meantime the Eastern fruit shipments have kept up well and have gained over last week in comparison with last year's figures. On Sunday and Monday the Eastern shipments were: Pears, nine cars; grapes, forty-two cars; apples, twenty-three cars; total, seventy-four cars, as against fifty-six for the same days last year. The total shipments to date have been 6655 cars, while the total to even date last year was 6532 cars.

The viticultural experts of the State University and of the United States Department of Agriculture are co-operating in the establishment of stations for grape growing and investigation. It is interesting to note that one of these will be in the Santa Clara district, where so many vines have gone to the bad by a mysterious disease freely suspected of being the same that did such havoc in southern California some years ago. Representatives of the co-operating institutions have recently looked over the valley and have decided to establish there one of the government experiment stations for which a special appropriation has been passed by Congress in the interest of the grape and wine industries. The value of the different varieties of grapes, their affinity for the soil, methods of grafting, vine diseases and kindred investigations will be carried on by trained experts. Similar establishments will be undertaken in other grape growing districts.

## QUERIES AND REPLIES.

### Pruning Apricots.

TO THE EDITOR:—Please inform me when is the proper time to prune apricot trees and what objection, if any, is there to pruning them at this time of year?—SUBSCRIBER, Ceres.

There is no objection to pruning apricots now; in fact you could have begun a month ago on old trees. Young trees are advantaged by allowing them to have the full season's leaf action, but it is now late enough to prune any of the early ripening summer fruits. It has been shown by ample experience that it is not necessary to wait until all the leaves have fallen and the days are short and the ground apt to be muddy. Prune at once and get everything cleaned up, for there will be plenty of other things to do after the rains begin.

### Drying Apples and Silver Prunes.

TO THE EDITOR:—Please inform me how to evaporate and sulphur apples. Do Silver prunes require sulphuring, and how long?—A SUBSCRIBER, Napa.

The fruit is usually dropped into water or brine from the parer to prevent discoloration by contact with the air. It is then sliced on the trays and hurried into the sulphur box and sulphured enough to preserve a very light color. The process is too full of details to describe in this place. One planning to dry apples on a considerable scale should visit Watsonville and make notes on the methods and appliances. Silver prunes are sulphured sufficiently to make them a clear yellow color when dried. One has to learn by experience the amount of sulphur and the length of time necessary with his fruit and his sulphuring appliances. It is largely a matter of judgment.



Chicken Ticks.

TO THE EDITOR:—Will you give us a remedy for chicken ticks? We have a chicken house built from old lumber, and it is alive with a flat, reddish-brown bug that prowls around during the night and is never seen in the day time. Our chickens show the effects of the pest very plainly. Do chicken ticks move from building to building? Could we get rid of them by moving the fowls to another separate house?—READER, Corning.

Chicken ticks are the most grievous insect the poultry man, in parts of the State where they abound, has to deal with, because it is practically impossible to dislodge them. A great many experiments with sulphur burning and use of bisulphide of carbon and other forms of fumigation have yielded no satisfactory results, and it seems likely that in parts of the State where these ticks are bad we may have to adopt the system recommended from Australia, which consists in making poultry houses of galvanized iron in such a way that they can be filled with straw occasionally and ignited, nothing short of fire seeming to be effective against this insect. Certainly you will accomplish a great deal by building a house of new material, and then, if possible, burning up the old one to get rid of the accumulated stock. The nearer you can get to building the house without cracks and erevies, also making all the roosting bars, nesting boxes, etc., in such a way that they can be readily detached and thoroughly cleaned with coal oil, the greater will be the chance of keeping the pests reduced in number; but there is little hope that you will wholly escape the carrying of the ticks from one place to another.

Winter Growing Manure Plants.

TO THE EDITOR:—I would like to ask your opinion as to what kind of seed I had best sow in my prune orchard for green manure to plow under in the spring; also for making the soil loose? The land is very strong, heavy bottom land, rather wet. Trees are seven years old. I would like to sow now and plow under in last of March, or in April.—SUBSCRIBER, Healdsburg.

There are two plants of which the seed can be easily obtained which would be most likely to give you satisfactory growth in your orchard before spring plowing commences; one is burr clover, of which you can get seed of the San Francisco seedsmen, unless it is possible for you to sweep it up from burr clover fields in your own vicinity; another is the common field pea, sometimes called the Niles pea, which you can buy in San Francisco from seed dealers. These plants will both make satisfactory winter growth usually and the seed is obtainable at reasonable prices. The amount of growth will be, however, conditioned upon the sharpness of frosts in the immediate spot, and a year's trial will give you valuable points in that direction.

Renewing Strawberry Beds.

TO THE EDITOR:—How often is it advisable to renew a strawberry bed. The plants live on from year to year in this country when irrigated. Is it better to set out a new bed of young plants every so many years?—GROWER, Tehama county.

Success in strawberry growing consists in having a succession of new beds coming into bearing, and although an old plantation, if well cared for, may be expected to be satisfactory for some time, the renewal proposition should always be kept in mind. Some growers replant after two bearing years; some count from five to eight years as the profitable life of the strawberry plant well cared for, and it has been reported that even 12-year-old plants have borne abundantly—still success will consist in reaching maximum of vigor and production, and probably three or four bearing years would be as long as plants should be retained.

Antidote for Dodder.

TO THE EDITOR:—Some time last year a San Francisco daily paper stated that an antidote for dodder had been found, that killed it and did not harm the alfalfa. I wrote asking to know it. The editor said the recipe was not at hand and advised me to apply to you for it. Such a remedy is greatly needed.—READER, Rio Vista.

We are very sorry to say that we do not know any antidote to dodder. We did not notice the paragraph that you speak of as being in a daily paper, so cannot give any information about it. You are right in saying that an application which would kill dodder and not injure alfalfa is greatly needed, but thus far we have not heard of any such thing.

Protecting Young Orange Trees.

TO THE EDITOR:—What do you believe would be the effect of banking up the earth about small orange trees for two or three months in winter as a protection against freezing? Would the banking up with earth tend to kill the tree if the leafy top were left uncovered? In case the top was badly frosted it could be soon cut away. In a place where smudging is difficult, what would be the effect of keeping a brush fire going at the lowest point, or where one could keep the air moving down and across the orange tract?—SUBSCRIBER, Loomis.

TO THE EDITOR:—Is it necessary to cover young orange trees (Washington Navels) with corn stalks or tule to protect them from frost? They were set out this year near Lindsay, Tulare county. Which of the two is best and cheapest, and where obtainable?—A SUBSCRIBER, Rio Vista.

We should expect to have either very sick or dead trees from banking the earth up to the branches for two or three months during the rainy season. The saturated earth would probably cause serious bark trouble, manifesting itself by gumming, etc. It would be better to enclose the whole tree in a rather loose thatch of straw, if corn stalks or tule were not handy. The point is to give some protection and yet not exclude the air sufficiently to cause decay and death of the foliage. Corn stalks, sorghum stalks, tule, etc., are good, because they give better chance for aeration. Old burlap sacking, rather loosely wrapped, will do also. You ought not to have trouble finding tule at Rio Vista, and you can find it also on low lands in Tulare county, to save freighting, but other things will also do, as stated. You cannot expect to do much with fires unless you have them small and brought pretty near to the trees. Large fires create great currents and they may be warm or they may be cold, according to topography, etc. What you want is slow and general distribution of heat through the area to be protected, and the same is true of the smoke generated. What you can do in any special locality must be ascertained by experiment. One of the best general conclusions from experiment is that the best place for these fruits is where they require a minimum of protection of any kind. If the young trees are not forced to grow too late, they will stand quite a low temperature—lower, in fact, than is good for the fruit on bearing trees.

The Flat-Headed Borer.

TO THE EDITOR:—Will you kindly give me some information about the "flat-headed borer," which I have come across for the first time this season. When do they hatch out, and how long does it take for them to attain maturity—that is, full size—and are they different in their habits from the ordinary borer?—ORCHARDIST, Palmdale.

There has been some doubt at the East as to whether the flat-headed borer requires more than one year for its life cycle, but it is probable that one year is quite enough in California where growing conditions are so favorable. The parent beetle deposits the egg in the spring time and the larva makes its growth during the summer, autumn and following winter, and the next generation of beetles appears the following spring. We do not know the insect which you have in mind as the ordinary borer in most parts of California. It is a fact, however, which perhaps you already know, that this insect does not as a rule attack a tree unless the bark has been injured by sunburn; consequently whitewash or other means of preventing the bark from sunburn also relieves the tree from the attack of this insect.

To Check Washing of Creek Banks.

TO THE EDITOR:—Can you suggest some vine, or bush, or even tree, that will prevent the washing of adobe soil in the winter season? I have a creek on my place the banks of which are badly washed out during heavy rains.—RANCHER, Santa Clara county.

It is difficult to name anything to you for the restraint of creek water more readily available than the native willows, especially the bush species which grow naturally in your district. They take root readily if cuttings are put in at this time of the year, and putting in large cuttings quite thickly and filling in behind them with brush, such as tree prunings, etc., one can check the rush. The growth of Bermuda grass is satisfactory for restraining banks, providing the undercutting has not been too great, but the introduction of Bermuda grass invites its spread to adjacent lands, where it is nearly as much of a nuisance as morning glory, and as difficult to eradicate.

Æstivalis Hybrid.

TO THE EDITOR:—Kindly inform me through your valuable paper what kind of vines the samples sent under separate cover are.—C. F. SEITZ, Healdsburg.

The specimens of grapes and grape roots which you sent for determination has been identified by Mr. Twilight, University viticulturist, as one of the hybrids of the Vitis æstivalis. There are innumerable hybrids in this class, and he is unable to definitely state from these specimens which one this is.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 12, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool, cloudy weather continued during the first of the week, followed by light rain and warmer at the close. The rain caused slight damage to late grapes, beans and unprotected hay; but, as ample warning was given, there was no material damage to raisins and deciduous fruits on trays. The warm, clear weather immediately following the rain will be beneficial to all crops. The almond crop is all gathered and under shelter. Oranges were not injured by the rain and are in excellent condition; the warm weather will hasten coloring and ripening. No particular benefit resulted from the rain, as it was generally too light to start grass or soften the soil. Plowing and seeding are progressing in some sections.

Coast and Bay Sections.

Warm and partly cloudy weather prevailed during the week, with light rain on the 9th extending along the coast from San Luis Obispo to Eureka. On the north-west coast the rain was sufficient to benefit grass, but in other sections was too light to be of value. Grapes and drying fruits were not materially damaged by the rain. Canning beans were seriously injured by the heavy frosts reported last week in Mendocino county. Carload shipments of Tokay grapes continue from Vacaville, and there are still considerable quantities of grapes on the vines in the Sonoma and Santa Clara valleys. Potato digging and corn picking are in progress. Bean harvest is nearly completed. Sugar beets at Salinas are coming in rapidly.

San Joaquin Valley.

The weather during the week was generally favorable for fruit drying and raisin making. Light rain fell in San Joaquin county, but did not extend southward, and caused no damage in the north. Grape harvest is progressing rapidly and shippers and wineries have all they can handle. Raisins are going to the packing houses in large quantities, and with fair, warm weather the larger part of the crop will be secured within two weeks. Prune harvest is practically completed and drying is progressing rapidly. Oranges continue in good condition and are coloring well; picking will probably commence about the 25th. Potato digging and corn picking are in progress and some late alfalfa is being harvested. Plowing and seeding are progressing in a few places.

Southern California.

Clear, warm weather prevailed most of the week, with fogs at night along the coast. Raisin making and fruit drying are progressing rapidly and with favorable weather will soon be completed; both crops are very satisfactory. Citrus fruits are in excellent condition and will probably yield more than the average crops. Apples are nearly all gathered. Walnuts in Orange county are of better quality than usual, but the yield is below average; picking is in progress. Beans were not seriously damaged by recent rains except in a few places; in Ventura county the yield is better than expected, while in Santa Barbara county the crop is much lighter than two years ago, though of superior quality. Sugar beet harvest is nearly completed.

EUREKA SUMMARY.—Generous rains extinguished forest fires and have given grass a good start. Apple picking is progressing; quality and color all that could be desired; abundant crop. Fall plowing is resumed.

LOS ANGELES SUMMARY.—The weather was generally favorable for fruits and vegetables, which are in good supply, also for bean and grain threshing; the latter is nearly finished. There is increased demand for irrigation water.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 14, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka	1.20	3.17	.68	2.83	70	48
Red Bluff	.20	.44	.04	1.27	90	56
Sacramento	.14	.14	.12	.83	86	54
San Francisco	.17	.17	.21	.93	86	54
Fresno	.00	.00	.00	.52	82	48
Independence	.02	.02	.30	.40	82	48
San Luis Obispo	.02	.02	T	1.14	96	50
Los Angeles	.00	.43	T	.46	94	56
San Diego	.00	.06	.02	.33	84	56
Yuma	.00	.67	.11	.79	94	58



## AGRICULTURAL SCIENCE.

### Reclamation of Alkali Land at Fresno, California.

By THOMAS H. MEANS and W. H. HEILEMAN, in Bureau of Soils Circular No. 11, U. S. Department of Agriculture.

At the time of settlement of the country south of Fresno there was little inclination of the presence of alkali in the soil, and no one then suspected that serious damage would result from irrigation. When, after a few years, alkali commenced to show in the vineyards and orchards, the attention of thoughtful men was directed toward remedying the evil, but up to the time of undertaking the experiment reported in this circular nothing effective had been accomplished.

**RECOMMENDATIONS.**—In 1900 a party from the Bureau of Soils spent a season in studying the soil conditions around Fresno, and in a report, embodied in the report on field operations of the Division of Soils for 1900, recommended drainage, with frequent cultivation and copious irrigation during reclamation, as the solution of the alkali problem.

Notwithstanding the recommendations in this report and the repeated statements in subsequent reports on alkaline areas in different parts of the country that drainage is a practicable and the only safe and sure means of permanently reclaiming alkali lands, no steps had been taken by persons most deeply interested to check or remove the evil. The Bureau of Soils, after careful consideration, decided that the most convincing way of bringing the truth of its recommendations and the value of drainage in reclamation work before the people was to demonstrate it by the actual reclamation of some of the alkali land. For this purpose the bureau selected a 20-acre tract of land belonging to S. M. Toft and N. H. Hansen, situated on Fig and Central avenues, about 2½ miles south of Fresno, and entered into co-operation with these gentlemen to demonstrate to the people of the irrigated region that alkali lands can be easily and economically reclaimed.

**UNDERTAKING DEMONSTRATION.**—The history of this land, as given by the owners, is as follows: The northern part of the tract was settled upon by Mr. Toft in 1876 and at that time showed no signs of alkali. In 1889 Mr. Toft bought an additional twenty acres at \$350 an acre, an average value for land in that vicinity at that time. The southern part of the tract was first settled upon in 1862 by Mr. Hansen, and at that time was partially alkaline. It has never produced good crops. In 1890 alkali commenced to show on the northern part, and in 1898 and 1899 it was practically abandoned.

The tract lies in a level district where it was impossible to obtain a gravity outlet for the drainage water, except by digging a drain 2 miles long; so, in order to raise the drainage water to the surface of the ground, a chain pump operated by a water wheel was installed on Central Canal, where it crosses Fig avenue. A drainage system of this kind is admittedly not so desirable as one in which a gravity outlet can be maintained.

**THE DRAINAGE.**—Three-inch, 4-inch and 6-inch tile were laid over the tract at an average depth of a little over 3 feet and 150 feet apart. The original intention was to buy nothing smaller than 4-inch tile; but the makers were unable to supply enough tile of this size, so the deficiency was made up by using 3-inch tile. It was found impossible to lay the tile during the summer season, owing to the nearness of the water table to the surface and the resulting condition of the subsoil, which was too soft to permit of the digging of a deep ditch. The work of ditching was commenced in December, 1902, and was completed in February, 1903. The cost of ditching, tiling and all incidentals, except the cost of pump and water wheel, amounted to \$16.50 per acre. The contract for the tile delivered in Fresno was: For 3-inch tile, \$24 per thousand; for 4-inch tile, \$32 per thousand; for 6-inch tile, \$72 per thousand.

**FLOODING.**—At the time of the installation of the drains eighteen acres of the land contained too much alkali to produce a crop. Scattered over a part of the tract were small patches of alfalfa and an occasional fruit tree—remnants of former cultivation. About March 1, 1903, irrigation was commenced. The land was divided into thirty checks, the size of each check depending upon the slope of the land. The largest checks, those on the level land, are about two acres in extent, while on the steeper slopes they are less than half an acre. The object was to divide the land in such a way that it could all be kept under water to a depth of 4 inches, and the reclamation was to be accomplished by maintaining the water at this depth until enough alkali had been washed out of the soil through the drains to enable a crop to be grown.

During the progress of flooding many difficulties were met, among them that of keeping the tiles from partially filling with sand and silt. Precaution was taken in laying the tile to put them in so the joints would be close, hay was thrown over the tile in

the ditch before covering with earth, and a ridge of earth was thrown up to prevent the water from standing directly over the drains. In spite of these precautions, the soil, which is very light, was so easily moved by water that it seemed to enter the joints almost as readily as did the water. This resulted in some of the drains becoming clogged, and it was necessary to relay a portion of the tile. After the land had been once thoroughly soaked and had settled, no difficulty was experienced from filling of the drains, and it is to be hoped that there will be no further trouble from this source. Most of the trouble was with the 3-inch tile, which is admittedly too small for use in soils of the light and silty character of the Toft-Hansen field. It is thought that there will be more or less silting up of the tiles whenever they are used in the sandy and white ash soils of the Fresno district, and it is recommended that every possible precaution be taken in putting them in. Much of the trouble may be obviated by using no tile smaller than 4 inches, or, preferably, 6 inches in diameter, and by giving the laterals such fall that the velocity of the water will be great enough to wash out the sand as rapidly as it enters the joints. The tile on the Toft-Hansen tract have a fall of 1 in 1000, and the velocity of the water flowing through them is not sufficient to remove the sand. With a fall of 1 in 500 the velocity is great enough to remove practically all of the soil as it enters.

To prevent entirely the clogging of the tile with sand, and to insure the removal of roots should any chance to enter, it is thought advisable to place in all tile a ½-inch galvanized strand-wire rope. Then two or three times a year, or oftener if necessary, a wire brush should be dragged through the tile in order to cut out all roots and stir up the sand and silt. Wire rope of this kind can be bought for about 1 cent a foot. Six-inch and 8-inch drains have been in operation for twelve years in the Simnyside vineyard and have been kept in perfect order in this way. From the experience gained, the bureau can unhesitatingly recommend tile for drainage purposes, provided proper precautions are taken in its installation.

**RESULTS.**—On July 15, 1903, after four and a half months of irrigation, an examination was made of the tract to determine what percentage of the land was sufficiently sweetened to grow a crop. This examination indicates that all of the land, with the exception of small spots amounting in the aggregate to less than two acres, is now ready for a crop. Most of it is sufficiently freed from alkali to warrant the sowing of alfalfa; but, as midsummer is not the best of time of year for seeding that crop, sorghum and Egyptian clover are being put in instead. These crops will mature by fall if the supply of irrigation water does not fail, and in the winter the land will be seeded to alfalfa. The small spots which are not yet ready for alfalfa are rapidly approaching that condition and will be ready for a crop during the coming winter. Thus it will be seen that practically all the land in this 20-acre tract has been returned to a state of profitable cultivation in a period of four and a half months after irrigation was commenced, and the statement seems justified that any alkali land in the Fresno district can be brought into profitable cultivation in less than one year's time, the two requisites for this being under-drainage and a copious supply of water for irrigation. While the bureau considers the land of the Toft-Hansen field practically reclaimed at the present time, the demonstration will be continued until a satisfactory stand of alfalfa is secured.

**GENERAL RECLAMATION IN THE FRESNO DISTRICT.**—Having demonstrated that alkali land can in a remarkably short time be brought back into a state of fertility by under-drainage and flooding, it remains to indicate the most economical plan of extending the work to cover the larger districts affected by alkali or seepage water, or in danger of becoming thus affected.

That the rise of alkali is caused by a rise in the level of standing water in the soil is admitted by all, so that the solution of the alkali problem depends upon the solution of the drainage problem. It must not be supposed, however, that drainage alone will reclaim the alkali lands, for complete reclamation demands heavy irrigation or washing of the soil. In the case of the 20-acre tract now being reclaimed, it is seen that four and a half months' constant irrigation was necessary before a crop could be grown.

Anything, however, which lowers the water table will assist in the reclamation of the alkali lands and will allow of heavier flooding to effect this reclamation. Thus it is evident that if the bottoms of all irrigating canals were cemented and the loss of water by seepage prevented, there would be a prompt falling in the level of standing water and heavier irrigation would be possible, thus enabling large areas of alkali lands to be reclaimed by washing the alkali into the subsoil. This alone, without drainage, would not be a permanent removal of the alkali, for if the water table should by any means be raised again, the alkali would promptly reappear at the surface. It is likely that the water table would be raised eventually, for upon the cementing of the canals and the consequent drop in the water level, vines, trees and plants, with their root systems adjusted to the present water level, would suffer, and irrigation would be necessary in fields that now are never watered from the surface. It is also likely that all the water saved

from seepage through the canal bottoms would eventually be applied to the land from the surface. Probably a larger proportion of this water would be lost by evaporation than now, but it is extremely doubtful if the conditions would be bettered. Again, if the farmers understood the proper amount of water to use and used only that amount, keeping the soil in the most perfect condition as regards moisture, much water might be saved and the water table lowered to such an extent that drainage would be unnecessary and satisfactory crops could be produced. But it is difficult to get the farmers to use just the right amount of water in practice, as they have a tendency always to apply it in excess. To drain the excess away before damage to the land results is the problem before the people.

**PUMPING POWER PROPOSED.**—Another scheme for reclamation is presented by J. B. Lippincott in his report, issued by the United States Geological Survey, on "Water Storage in Kings River." Mr. Lippincott proposes to establish electric power plants in the mountain canyons of Kings river, to transmit this power to the plains and to distribute it to the farmer for use in running pumping plants. With cheap power of this kind pumping plants could be used on the Fresno plains at points not reached by canals, or, even during a season of short supply, on lands under existing canals. Pumping would tend to lower the water table, and, as probably 50% of the water applied to the land would be lost by evaporation and transpiration by vegetation, there would result a permanent lowering of the level of underground water. For the lowering to amount to much, rather extensive pumping would be necessary, and to accomplish this a cheap power must be had. This lowering of the water table would have the same effect as drainage and would permit the reclamation of alkali land.

During the winter months the level of standing water falls, the average depth being from 6 to 10 feet, and in some places even more. This level is manifestly lower than could be obtained by any drainage scheme, and, if maintained, would obviate the necessity for artificial drainage. A great deal could be done towards alkali land reclamation in the winter months by pumping from wells and keeping the land flooded. In this way the alkali which is at the surface would be washed into and distributed through the subsoil. This process, of course, would not get rid of the alkali, for it still remains in the subsoil and heavy flooding every few years would be necessary to keep it down.

These are some of the practical suggestions offered for the reclamation of alkali land, but none of them is as feasible and as economical as the method proposed and demonstrated by the Bureau of Soils, and none of them guarantees a permanent reclamation. The only way to permanently rid the Fresno district of alkali and seepage water is by underdrainage.

(TO BE CONTINUED.)

## THE DAIRY.

### Advantages of Competitive Butter Tests.

By WARREN MYERS of Woodland at the Creamery Convention in Sacramento.

The butter maker needs exact instructions as to his market requirements, and the expert who scores his butter should understand precisely the prevailing standards of such markets.

In California the feed conditions are so various that a constant effort must be made to overcome peculiarities which affect the value of the creamery product when subjected to critical trade standards.

Every season brings a nicer discrimination as to butter qualities and the customer is educated to expect the best at all times.

In catering to this demand and in the adaptation to new methods of marketing, in which the creamery reputation is secondary, a close system of grading has been established. The tendency is to pack in bulk in the most convenient shape for the dealer to meet his necessities. Creamery brands and the old established dairy reputations of counties and districts become less among the factors in marketing from year to year, and there is a constant tightening of the lines around the butter maker and the dairymen to meet the changing conditions.

Our larger creameries are operated on extremely close margins, in which a fraction of percentage in price must be considered.

In the effort to secure and hold an advantage in selling their products, these factories must not only be well equipped with facilities, but are compelled to employ the best operators and have superior management. In this selection of competent men for the important factories, the standards are steadily advanced and it is a necessity that the operator and the creamery manager should be kept informed on this subject.

The customer, dealer, factory manager and the dairymen must be educated together; therefore an exhibit of the products from every dairy section, each



with its peculiarities, gives an unique opportunity to compare all the California conditions at a given time. It becomes a great object lesson when critically scored by a representative of the San Francisco market, and also of the University, thus uniting science and trade in judgment on the best efforts of the dairy industry of this wonderful State.

The operators employed by the factories with large interests must be skillful to hold responsible positions. This leaves the second rate men and creameries at a disadvantage, in which only skill can save them; therefore it is vital that the faults and peculiarities of their product should be made known, not only to the employees, but to the dairymen whose final interests are of equal importance, that a mutual effort may be made to remedy conditions. Seemingly insignificant conditions often have far reaching consequences, and when the question of market is referred to, every citizen of the State should be interested. Every dollar of the State appropriation for dairying should be used for positive work in its interest, and the services of the universities and the technical schools should be directed into close research of conditions which handicap dairy development.

San Francisco is the natural outlet for our surplus dairy product, and its dealers must compete with Eastern concerns in meeting foreign orders and for bids to supply our navy and army on the coast. Are we in condition to fill a demand for an extra grade of butter in large quantities of even make, with special requirements in ripening cream, or is it necessary to import Eastern goods for the purpose? Unless the creamery manager can be made to realize the needs of the local market, and of possible outside territory, his factory is likely to be less and less considered by dealers. An annual exhibit and score is valuable to such a manager and to every one concerned in butter making. A monthly comparison on this same basis, or a daily score of the factory output, seems to be one of the necessities in our development, and it is likely that a system will be established by which every important sale is made on an inspector's score certified on original shipping packages in bulk. These problems have been solved in other markets, and we are in a stage of development delayed only by want of information by those concerned. These annual exhibits are important as the beginning of such a system and for the insights given into the art of scoring and inspecting.

## THE VINEYARD.

### Grape Growing in the Santa Cruz Mountains.

At Wrights, on the broad flank of old Loma Prieta, which overlooks the valley and the sea, along the ridges and slopes of the Santa Cruz summit, and where the canyon sides face the genial south; in that upland section of ferns and roses, oaks and orchards, redwoods and vineyards, the vintage is now at the height of its glory. Thus appreciatively writes a correspondent of the San Jose Mercury, and he adds many details of an interesting nature.

**THE LATE GRAPE DISTRICT.**—Other districts supply the early varieties of California grapes for the Eastern markets, but at this season of the year there is no grape district in the world equal to that of Wrights. In fact, that section just now has a monopoly of the table grape industry, the other grape districts having largely finished their crops.

**GROWTH AND TRADE.**—The virginal qualities of the soil and the extent of the seasonal rainfall at Wrights, averaging 50 inches every year, are such that the phylloxera has thus far done comparatively little harm to the vineyards of that section. At the present time not less than two carloads a day of table grapes are being shipped in refrigerator cars from Wrights, the new broad gauge having made it possible to run ears of that kind from Wrights station to every part of the continent. And these daily shipments, barring heavy rainstorms, will be continued for six weeks to come.

The chief markets in which these table grapes are sold are Boston, New York, Philadelphia, Chicago, St. Louis, Minneapolis, New Orleans, Denver, San Antonio and Galveston (Texas), the City of Mexico and Montreal. This wide distribution of the Wrights table vineyard products sufficiently attests the esteem in which they are held and the wide demand there is for them.

The standard varieties of table grapes grown at Wrights are the Flame Tokay, Black Cornichon, Verdal, Emperor, the White and the Black Muscat, Black Ferrera, Morocco, Thompson's Seedless, Royal Isabella and Malvoise. But there are other varieties, one of which is the Imperial White Cornichon, an Italian grape, originally propagated by the Jesuit Fathers in Italy. Attorney E. E. Cothran of San Jose, who owns a home and vineyard at Wrights, has this grape, among other varieties, and this season it sold in New York as high as \$5 a crate of twenty-five pounds. But it is a shy bearer, adapted to only a few climates.

**MANY GRAPE GROWERS.**—Not only do vines bear

abundantly at Wrights, but the clusters reach extraordinary size. One cluster picked by Mr. Cothran from one of his vines this year weighed seven and a half pounds, and bunches of four or five pounds are not uncommon. Among the chief producers of table grapes at Wrights are the Wright Brothers, Judge Aiken, A. C. Morrell, the Burrells, Mr. Montgomery, Charles Geortz of the German Colony Vineyard, Miller Brothers and Ed Goldman, who ships the latest and best Black Cornichons in the world for size and beauty, and several others. Last season Mr. Goldman shipped Black Cornichons until the latter part of January and got big money for them in the New York market. This variety will stand a great deal of rain and still be marketable. Mrs. Ed Yocco and J. G. Grundell are also producers and shippers of fine table grapes. Mr. Grundell, by the way, probably knows as much about resistant vines as any man in the world.

Of wine grapes at Wrights there is no end. The largest of the wine vineyards are probably those of Geortz and the McKiernan Brothers, while the largest resistant vineyards are those of E. E. Cothran and E. E. Meyers. Mr. Meyers has the most costly winery, having expended \$60,000 on that and the distillery. The Morrells, Mr. Fidel and many others own successful wine vineyards, and there are several wineries in the vicinity.

**PROFITABLE WHITE WINE.**—There are wines and wines in California, among them the sugar-and-water wines that are sold in New Orleans for 17 cents a gallon—or is it 19?—which forms a basis for the wine association's plaint that wine is so cheap in the East that it cannot afford to pay more than \$12 or \$14 a ton for grapes. Perhaps the association doesn't know that there is wine made in this valley that is in demand when only three months old at 40 cents a gallon in the puncheon, and that good California wine, be it white or red, brings good prices anywhere. This particular wine is Reisling, made from imported Rhine wine grapes, on the Kroenberg place at Wrights, by his manager, John Mehl, who is regarded as one of the best wine makers in California. It is made from a combination blend of Franken-Reisling, Johannesburg and Traumene, and during the past three years, and when only three months old, it has never been sold at less than 40 cents a gallon, and for three-year-old product 75 cents a gallon, in the puncheon at Wrights. From fifteen acres of grapes last season 8000 gallons were made, and all was sold at 40 cents three months after the making. Of course this is exceptional, but it shows that good wine is in demand at profitable prices.

**THE RED WINES.**—Among the red wines of a superior type at Wrights are those made from grapes of following varieties: Carignan, Petit Zerah, Babera, Alicante Bouschet, Mondeuse, and a number of ordinary wines are made from Zinfandel, Burger and other varieties.

But after all it is the table grapes that are pre-eminently to the front at Wrights. Wine grapes are grown in every section of the county, particularly in the western foothills and mountains, but for late table grapes Wrights has no competitor in California. All varieties of fruits flourish there, where only a few years ago the stately redwoods, the oaks, the laurels, the madroños and chaparral held supreme sway, and its blackberries have no superior for deliciousness, but if it grew nothing whatever but table grapes, shipped throughout the months of October and November, frequently in December, and in some years so late as January, its reputation would still be unsurpassed by any fruit-producing section in California.

### Claims Discovery of Cause of Vine Disease.

**TO THE EDITOR:**—I beg leave to inform you, and through you the grape growers of California, that I have discovered the true cause, the nature and the solution of the problem of the California vine or Anaheim disease—the latter not entirely conclusively yet, as such a thing takes time. Still I am convinced of its feasibility and shall have no trouble in convincing others. But as an inventor is worthy of a minute portion of the value of his invention, so I shall ask \$20,000 for the publication of my discovery. The State of California, as a whole probably, or those interested in vineyards, will consider my proposition. It means the saving of thousands of dollars which would otherwise be lost in the planting of worthless resistant, and it may mean thousands more in saving the existing vineyards from destruction, especially those on resistant stocks. No money need be paid in advance, but within the next two years, or from three to six years more, if I should demand it, three judges shall be appointed, one by myself, one by the other party to the contract, and the third one by the two judges named to decide whether I am right or not. Other terms of contract will have to be agreed to.

If the Government experts have the matter as well in hand as I have, they had better make their announcement, and in that case I shall make my own free also.

Wright, Cal.

H. Hoops.

## FORESTRY.

### California Forest Restoration and Extension.

By DR. MARSDEN MANSON, of San Francisco, in Water and Forest.

In restoring the devastation already wrought by forest denudation in California, there is much in our favor.

First—Nature is not only prodigal in her gifts, but prompt and energetic in her efforts to restore them when wastefully and unwisely exhausted in our greed for wealth.

**CONDITIONS IN THE COAST RANGE.**—The sea fronting portion of the Coast Range north of Point Sur abounds in redwoods wherever the soil and physical conditions are suitable for their growth. The ax of the lumberman cannot permanently injure these areas, for although he may strip them of their wealth and beauty, the reproductive powers of the redwood are so great that every stump—nearly every root—throws up shoots which in time become trees. But to prevent or to check this growth careless incivism, the stock raiser or sheep herder, step in with further and continued devastation by fire and destructive pasturage. These latter agencies are cumulative in their effects and from them recuperation is well nigh impossible. After each fire Nature's efforts are more and more feeble, and after repeated stripping of forage plants and grasses, both in bloom and in seed, by destructive pasturage, further growth is rendered impossible. The tramping and cutting up of the soil and the stripping it of protecting vegetation causes the rapid run-off of rains to sweep the bedrock clean, leaving barren slopes for the coming generation, and ensuing drouth and poverty to lands and industries below. In the face of the forces thus given destructive energy, man is powerless to restore soil and vegetation to the wasted slopes or to check the rivulet which he has converted into a torrent.

On the eastern slope north of Point Sur and south-erly from this point forest areas are more restricted, but there are sparsely-timbered and brush-covered areas of great extent. Over all of these the soil responds promptly to conservative efforts, as shown by the success of the timber plantations throughout the Coast Range. Besides, the roots of many species of native dwarf and brush growths possess sufficient vitality to withstand ordinary brush fires, but they do not withstand destructive pasturage and repeated fires.

Nearly all of the Coast Range region can be reforested by one or two processes—the natural growth or reseeding of native species or by planting certain hardy, exotic species. Both of these processes can be applied at much less expense now than at any time in the future, and are more rapid in their effects than elsewhere.

**CONDITIONS IN THE SIERRA.**—In the Sierra, after valuable timber has been cut down, two hardy and prolific trees spring up in great abundance—the silver fir and the red cedar. These grow up in dense plantations, too thick for even satisfactory growth, and should be thinned out, as when young a fire utterly destroys them. Some of the most desolate pictures in the Sierra are the burned over plantations of young fir and cedar, with their dead and blackened trunks marking for years, without further growth, the fact that some sheep herder desires his own temporary gain at the expense of generations to come; or, that with reckless disregard of water supply and prosperity, we have failed to aid nature in her efforts to protect the mountain side.

Below the heavier forests and well down into the foothills of the Sierras, several species of pine spring up in equal profusion—but these, too, fall before the forest and brush fires intentionally or accidentally started, and practically no effort is made to suppress them. Areas, therefore, on which timber naturally grows need only to be guarded from devastating processes, and nature restores them. They are reseeded in the most prodigal manner and must be protected only from fire and destructive pasturage.

There are, however, in the Sierras, as in the Coast Range, larger and more important areas on which the conditions for timber growth are not so favorable. These areas were originally overgrown with brush and have been so ruthlessly burned over by repeated fires that it will be the work of decades to inaugurate a growth of brush and dwarf timber to check denudation and as a beginning of real forest planting. Some of these lands will produce excellent timber in time and all are essential as catchment and storage areas to preserve rivers and reservoirs at an efficient stage. On these areas systematic work must be undertaken before it is too late to check the denudation of the thin soil. When this shall have been inaugurated, pasturage under proper restraint and control can be permitted, and timber-cutting as a human industry, rather than as a destructive process, can be made to yield a continuous return.

**WORK THAT MUST BE DONE.**—Thus there are three great lines of work on which systematic and sustained effort must be put forth:

First—To protect the young plantations of forest



growth where the conditions are such as to give spontaneous reproduction.

Second—To extend forest growth over areas in which conditions are such as to require practical assistance in the selection and planting of hardy and suitable species, and in the gradual replacement of brush and dwarf growths by desirable trees.

Third—To give forage plants and grasses a season in which to recuperate and bear seed, and to plant desirable species over suitable areas.

These principles, wisely administered, will restore and extend our decreasing timber and pasturage areas, and turn from us the heritage of poverty and degradation which is the patrimony of any people who permit the destruction of their mountain forests and pastures.

But this is work which will not accomplish itself and it will not be accomplished without system. Every scattered interest, every separate line of action, must be concentrated in systematic and sustained work along definite and well-directed lines.

It is the duty of every citizen, who has the ultimate welfare of our country at heart, to aid in thus concentrating all sources of energy along effective lines.

## THE IRRIGATOR.

### Reclamation Work in California.

"Within six months the United States Government will begin work on a gigantic irrigation scheme within the State of California that will place under irrigation fully 250,000 acres of arid land," said W. S. Melick, secretary of the State Board of Examiners, in an interview with the Sacramento Union on Saturday.

"I have just returned from the Clear Lake country, where I have been in company with H. M. Savage, W. H. Sanders, Morris Bien and J. B. Lippincott, a party of United States engineers, who have the work in hand and who, with two others, form a commission of the Reclaiming Survey Department of the Interior Department at Washington.

OVER TWO MILLIONS.—"This commission has been appointed to investigate various projects in California for forming national irrigation systems, and they have at their disposal the sum of over \$2,000,000 at the present time to be expended in this State.

THREE PROJECTS.—"The commissioners have in hand three projects. Since the Ogden convention they have filed on water rights about 150 miles north of Yuma that will suffice to irrigate half a million acres in the Colorado desert. Another scheme they are considering is the consolidation of all the irrigation systems on Kings river into one grand system that will include a larger area of arid land, and the third scheme is the Clear lake project.

CLEAR LAKE THE BEST.—"The latter seems to appeal to the commissioners with a great deal of force, as they declare that it is the best one in the great West. Clear lake comprises a body of 40,000 acres, and by building a dam across its lower end the water can be raised 6 feet, and this will give a volume of water sufficient to irrigate 250,000 acres of land.

"The only trouble to be encountered in this scheme is one of vested rights, as Messrs. Craig and Stevens of the Woodland Bank have already started in on a like project. They, however, will lay before the Government some proposal; but, until this is acted on, it can not be known whether or no this will be the first project adopted.

CONSULTATION WITH THE GOVERNOR.—"Messrs. Savage and Bien of the engineering corps held a long consultation with the Governor and laid before him their plans for California development, and they have now gone on to Truckee to investigate the Truckee river project for irrigating the arid lands of the State of Nevada. After completing this work, they will go to the Tonto Basin in Arizona to examine conditions there, after which they will make their report, and the Secretary of the Interior will then decide which of the California projects to take up first."

Considerable information concerning the Clear lake proposition, with outline of the plan, has been already published by the Union. The announcement that work is to begin renews interest in the project.

### The National Irrigation Work.

By F. H. NEWELL, head engineer of the Reclamation Service of the United States Geological Survey, at the Irrigation Congress.

The reclamation law signed June 17, 1902, requires surveys and examination in thirteen States and three Territories. In order to carry into effect the objects of the law, an engineering corps known as the reclamation service has been organized by the Secretary of the Interior as a portion of the hydrographic branch of the United States Geological Survey, which was done largely in order to benefit by the regulations and methods of that bureau.

The engineers of the reclamation service are, in effect, the advisers of the Secretary of the Interior in the great work of reclaiming the arid lands of the West. They are to obtain facts as to cost and advisability of various projects and submit these with recommendations for construction. The attempt has

been made to secure the best engineering experience available, and to bring into the subordinate positions in the corps young, well-trained men, competent to carry on field work economically and rapidly. The positions are filled by competitive civil service examinations.

Each district engineer prepares plans and estimates for reclamation work along the rivers under his charge, these being submitted to the consulting engineers for examination and criticisms. If approved, the reports are forwarded to the Secretary of the Interior, with recommendations for immediate construction.

In making these recommendations to the Secretary, the relative importance of the work is considered, the economy of construction and cost of reclamation, the character of the land and all other facts which bear upon the feasibility and probability of bringing about a dense settlement and thorough cultivation of the reclaimed area.

The prime requisite is that prosperous homes may be made upon the irrigated lands. At present the projects are all large and expensive, as most of the smaller reclamation schemes have either been constructed by private enterprise, or can be if left for this purpose.

Actual settlement and cultivation of the reclaimed lands is required by the terms of the law, and there is little, if any, possibility of speculation, since the individual who takes up the land must live on it five years, and can acquire complete title only after all payments for water are made. The cost of the work is ultimately refunded, and the money thus returned to the treasury can be used over again in the building of other works.

Of the various projects now under consideration, one, that in Nevada, is actually under construction. Others are at a point where the specifications and form of contract are nearly ready for submittal to the Secretary. Many projects have been examined and considered or laid aside for future action. The careful survey and examination necessarily consume time, but all friends of the movement are willing and desirous that ample time should be taken to ascertain the full facts and to avoid mistakes.

With a well organized engineering corps actively in the field at work, and construction following the determination of the essential facts, it will be possible to bring under irrigation, before many months, considerable areas of lands now vacant and useless. The creation from these desert tracts of homes for many hundred families will make a wonderful change in the western part of our country and bring about a higher standard of living and citizenship.

## POULTRY YARD.

### Geese Growing in California.

E. F. Barry, who writes from this State to the Orange Judd Farmer, gives the following suggestions on local goose growing: Two geese are sufficient for each gander, and they would do better to be in pairs during the breeding season. In starting, one no doubt would buy a trio or several trios of young geese, for they could be got cheaper than old geese.

Next introduce them into their new quarters and they will run together till about January or February in perfect harmony. When the geese begin to talk "goose talk," about building a nest, the ganders will begin to tell you how many there are of them, which fact you might not have known before, for it is very difficult to distinguish the sex in geese. This distinction is easily made by the ganders, who begin to decide supremacy. One gander will drive all others out of the pen, if they can get out, or injure them quite severely if they cannot keep out of his way.

Now is a good time to divide the flock. Leave one or two geese with the boss gander and remove the others to another pen, and in the same way continue to single out pairs or trios until you have them all separate. This is only for the starting year. After they are separated put leg bands on them and record the same for future reference. It's a difficult matter to distinguish the young from the old in the fall, and the use of the leg band is the only way out of the difficulty. If holes are punched in the web of their feet they will grow up after a while, and the scar can hardly be found.

Each pair or trio should have a separate room or small house, with yard attached, into which they should be kept from the time they begin to mate till the goslings are able to follow their parents without getting tired out, when it will do to allow them free range. The old geese will generally come to the house at night for several weeks after the goslings are hatched, and frequent the building during storms as long as the goslings remain unfeathered, after which they will stop outside night and day.

For the reason that the three geese with their goslings are liable to need shelter, even after nearly full grown, a pen 8x10 feet will be none too large for each trio. A yard 20x40 feet will do during the breeding season, but if kept in a yard of this size they must be supplied with green stuff. That is the first thing the goslings want for feed, and the sooner they are let out on free range the better. As a rule, each

flock will keep separate during the entire summer. An occasional fight between ganders may take place. If a gander is very mean about fighting, better shut him up than the whole family, for it's the ganders only that will fight.

## HORTICULTURE.

### Eastern Comments on the Loganberry.

It is never possible to predict the ultimate value of a fruit novelty before dissemination. The great majority of new kinds fall by the wayside without making any definite impression; others slowly win their way to quite general recognition, and a limited number find appreciation in unexpected localities, and fail miserably where it might appear they would well succeed. The California loganberry seems to be an example of the latter class. At first highly successful in its native State, it is now reported as so unprofitable on account of the low prices received for the fruits during the height of the season that growers are considering the advisability of taking up their vines. East of the Rocky mountains it is generally a failure, bearing only a light crop and dying out, in most localities in three or four years. The canes winter-kill considerably in northern latitudes, but could be protected from reasonable frost if the variety produced well enough. This novel hybrid between the raspberry and blackberry is, however, constantly gaining favor in England. Reports of its good qualities under similar conditions are constantly being published in the gardening journals. The Royal Horticultural Society recently awarded it their highest honor, a first-class certificate, and the proposal is made that a medal be forwarded to the originator, Judge J. H. Logan, Santa Cruz, Cal., as an appreciation of his contribution to new fruits. Thus the judge will not lack honor abroad even if his berry ultimately fails at home.—Rural New Yorker.

We are glad that Judge Logan is to be honored for the origination of the fruit. So far as we know, the report about its unprofitability in California is greatly exaggerated. It has sold low and there is apparently an oversupply in the large markets at times. This arises from the fact that even our own people have not learned the highest uses of the fruit. All do not find it bland and sweet enough for a table fruit, though some greatly enjoy its sprightliness and acidity. The jam and jelly uses of it are not widely known to city people, though in localities where it is grown it is very popular. If the statement about the success of the fruit in commanding favor in England is accurate, that may be accounted for by the fact that the English are par excellence a jam people, while the American prefers his fruit raw.

### Fumigation Will Destroy Codlin Moth Eggs.

About a month ago, says the Watsonville Pajaronian, Prof. W. T. Clarke made a test with hydrocyanic acid gas on fifty boxes of apples of a carload consignment sent by the Earl Fruit Co. to Australia in order to determine the value of such treatment as a means of destroying any codlin moth eggs that might remain on the apples at the time they entered the packing house. While no word has yet been received from the Australian shipment, samples of the apples treated at that time and kept at the office of the codlin moth investigation in this city show that the eggs, which would have hatched out under ordinary circumstances in from ten to twelve days, have completely dried up. The test made has proved beyond a doubt that hydrocyanic acid gas will destroy codlin moth eggs that remain on apples when they reach the packing houses. As it would take some time to fumigate apples in lots of fifty or sixty boxes, Prof. Clarke suggests that a carload be fumigated at one time. When the car is loaded it can be fumigated very easily within a couple of hours.

The experiments with packing house fumigation will be the means of saving orchardists tens of thousands of dollars each season, and proves that the Board of Supervisors of this county made no mistake when it decided to make an appropriation of \$250 to defray expenses in making the tests. It would have been impossible to make better returns on the money invested.

The loss in the past from worms in fruit that was shipped out in good faith for a first-class pack has been very heavy. This loss was caused by the hatching out of codlin moth eggs while the fruit was in transit; therefore the apples reached their destination full of worms.

The codlin moth investigation has been very successful in Pajaro valley this season, and next year's work will prove less difficult by reason of the experience gained this year. Orchardists will know what to use and how to use it.

Professors Woodworth and Clarke have done their work thoroughly and the orchardists of this section are deeply indebted to them.



## Agricultural Review.

### Butte.

**HEAVY TRAIN OF CATTLE.**—Chico Enterprise: A lively scene was presented in the Southern Pacific stock yards in the carrying of over 1200 head of cattle which were destined for a long trip to southern California. Forty-eight cars were filled, four with cattle from the immediate neighborhood north of Chico and forty-four from the Clark ranch in Dixie valley. These latter, nearly 1200 in number, were driven from the northern range by way of Big Meadows and Powellton. The buyers of these cattle are shipping them to Chino, where they will be fed and fattened upon the refuse from the sugar refinery.

**SHEEP NOT FAT.**—Gridley Herald: W. R. Rhinehart drove his sheep through town Tuesday en route from the mountain pastures to the stubble fields west of Gridley. In the band were 3000 sheep. The feed on the mountain ranges has not been as good as usual this year and the sheep do not look as well as common. However, they are now on splendid feed and will pick up in a very short time. Heading the big band of sheep was a large black goat with whiskers a foot long. He pranced along ahead and seemed to realize that he was the principal personage of the whole flock.

### Fresno.

**SOME LARGE CROPS.**—Enterprise: O. A. Walters has a two-acre field from which he has taken this year twenty tons of alfalfa hay. Frank Jordan has just finished curing a record-breaking crop of raisins, taking twenty-two and one-half tons from sixteen acres. His vineyard will net him in the neighborhood of \$175 per acre. His raisins are of fine quality. H. G. Drew is well pleased with his peach crop for the year. He has taken twenty tons of dried peaches from fourteen acres, and refuses to sell at this time, believing that later he will get 6c per pound. He is offered 5c and 5½c now.

**PUMPING FOR ALFALFA.**—W. A. Durham is boring a 12-inch well for a big pumping plant on his alfalfa ranch, 4 miles south of Selma. He owns a section of land and proposes to wet it by this means. Mr. Durham has given the matter of irrigation a good deal of attention and contends that alfalfa can be best grown from pumping plants. Especially is this true the first or seeding year. The ground should be thoroughly wet, prepared and seeded during October, at which time water is out of the ditches, thus enabling the alfalfa to root down all winter, so that it will be in fine condition in the spring. Mr. Durham considers that irrigation pumping is no longer an experiment.

**PROFITS OF A SMALL FARM.**—Reedley Exponent: C. E. Wiseman, living on the south side of Reedley, has twelve acres which has netted him a neat sum. Last year he sold from his twelve acres of vines fifteen tons of raisins at 4c a pound, or a total of \$1200, and sold \$90 worth of black grapes off his vineyard. He paid \$145 for picking and \$25 for extra help. He also sold \$110 worth of grapes to the winery, making the total receipts \$1400. The total expenses, outside of his own labor, were \$170, which left him \$1230 clear profit. With the care of this vineyard he took charge of another vineyard of fifteen acres and cared for both of them in this length of time: Twelve days to prune, three days burning brush, five days to irrigate, six days to plowing, one day to harrow, two days to cross plow, seven days to cultivate, making thirty-six days' care of the twenty-seven acres. Mr. Wiseman spent his extra time in working for others, thereby making \$325, which shows a total of \$1555 that he made clear for his labor and property.

### Kern.

**EGG PLANTS.**—Bakersfield Echo: A. Blodget left three specimens of egg plant, which are nearly twice as large as the ones at the Board of Trade. It is 2 feet the shortest way around Mr. Blodget's egg plants and 2 feet 2 inches the other way around.

### Kings.

**TALL CORN.**—Hanford Sentinel: J. R. High of the Eureka district, northwest of Hanford, has placed on exhibition four stalks of dent corn that are immense. The stalks are well eared at a point 8 or 9 feet from the butt, and the tallest of the stalks measures 16 feet 3 inches in length.

### Merced.

**LIGHT RYE CROP.**—Merced Star: The rye crop the past season was the lightest we have had for a number of years. A large area of the holding of the estate of J. W. Mitchell was for years seeded mainly to rye, which found a market principally in Germany, but the Fin de Siecle Invest-

ment Co. have sold a large tract of this land, and have converted some to pasture for cattle. Their crop this year was less than 10,000 bags, as compared to 30,000 in former years. Their crop of rye has been sold on a basis of \$1.20 to \$1.27½, Port Costa delivery.

### Mendocino.

**HOP CROP.**—Beacon: The total hop yield for Mendocino county this year will amount to 7899 bales, or 232 bales short of last year. The yield two years ago was 6967 bales. The price has not yet been fixed.

### Orange.

**WALNUT PACKING.**—Anaheim Gazette: The Deciduous Fruit Association will open its packing house at Loara station October 14th for receipt of this season's walnut crop. The association expects to ship ten carloads, as against twenty-one last year. Orchardists report a light crop, not half so large as last season's. Some have more than they expected earlier in the season, while in other orchards the crop is lighter than anticipated. Prices are 12½ cents per pound.

**THE WALNUT CROP.**—Enterprise, Oct. 7th: Walnuts have begun to drop freely. Sunday's shower loosened them considerably, and picking has commenced in a small way. Large numbers of Mexicans and their families have come into the field to pick nuts. The Golden Belt Association and the Fullerton Walnut Growers' Association will commence Monday to arrange their walnut grading and bleaching machinery for the season's work. Last season's shipments amounted to 122 cars, but on account of the late spring rains and following cold rains, this season's crop is not expected to amount to more than fifty cars. Shipments are expected to be made about October 15th.

### Riverside.

**DID WELL.**—Hemet News: R. Cassady is one of the lucky ranchers out Winchester way—lucky in having a big crop to harvest. He farmed about 500 acres this year, of which 450 acres were cut for grain and yielded 4000 sacks of wheat and barley, while fifty acres turned into hay made more than fifty tons. The barley averaged a little better than twelve sacks per acre, and the wheat over seven sacks per acre. Mr. Cassady has one combined harvester, which was out this season just eighty-five days, harvesting in the neighborhood of 2000 acres of grain. Much of the grain was so heavy with straw that but half a swath could be taken at a time, causing much slower progress and covering a much smaller acreage than otherwise would have been the case.

### San Bernardino.

**CHOICE APPLES.**—Redlands Facts: A fine lot of apples was brought to the Board of Trade rooms by W. C. Lukens, of Oak Glen. They are of the 20-ounce Pippin, Jonathan and Rhode Island Greening varieties and will average nearly 1 pound each in weight. They are good examples of what may be raised in the way of apples in the foothill country. Oak Glen has an elevation of 5000 feet.

**BET SUGAR.**—Chino Champion: The record for the season was made at the sugar factory on Monday, when 935 tons of beets were sliced in twenty-four hours. Saturday and Sunday there were worked, respectively, 890 and 888 tons, showing good, steady progress in reducing the crop. There have been sliced to date 45,000 tons.

**HEAVY SHIPMENTS OF CATTLE.**—R. C. Steele says he made a record shipment of cattle from the north. He brought 1016 head from Chico, Butte county, in thirty-seven hours, without the loss of a single head. This has been a dry year in the northern part of the State and consequently feed is too scarce to fatten the cattle with which some sections of the country are stocked. Mr. Steele says there is better profit now in bringing cattle from the north than from Arizona or Mexico.

### San Joaquin.

**CHERRY TREES IN BLOOM.**—Stockton Mail: F. A. Mondon, a well-known Atlanta farmer, reports that cherry trees on his place are in bloom. The blossoming of these and a number of other trees which are reported to have come into flower of late is supposed to have been caused by the unusually warm weather. During the summer and fall the fruit buds for the succeeding year set in the twigs, ready to start in the spring, and warm weather at this season brings them out prematurely.

**ALMONDS DID WELL.**—The almond harvest has resulted in a better yield than was expected. The best yield this season was secured on soil which was well cultivated and irrigated. M. P. Stein, who has an orchard near Lodi, secured about 150% increase from fifteen I X L trees. Last season the same trees produced sixty-six large sacks of nuts and this year

he secured 158 sacks from them. Mr. Stein believes this due to the system of pruning he adopted two years ago, to timely and judicious irrigating and proper cultivation. The foliage on his trees is just as thrifty now as during the summer, while in most other orchards the leaves have already fallen. C. L. Ortman, whose orchard is about 10 miles east of Stockton, on the Linden road, secured three carloads from forty acres. He sold them for about \$6000 and made a net profit of fully \$100 an acre.

### San Luis Obispo.

**LICORICE THRIVES.**—Tribune: There is a small tract of licorice near Cayucos which, in spite of entire neglect, is growing and doing well. [Yes; and it will continue to do well. Licorice goes in to stay. Look out for it, if you don't want it that way.]

### Santa Clara.

**LARGE WALNUTS.**—Los Gatos News: Mr. Gerlach, of Glenridge, is showing walnuts which are the largest ever seen around here, so far as reported. One specimen in the husk measures 8 inches around the long way of the nut, and 7 inches around the other way. A number of them with the husks removed were shown, and they would average 6 inches around the long way, by 5 inches around, and they weighed over an ounce each. This is the first year Mr. Gerlach's trees have been bearing, and two of them grow these large nuts in about the same number that the other trees grow the ordinary-size walnuts. Mr. Gerlach does not know if he has a variety differing from others here or if they are "sports" from some of the common sorts. In appearance the shells are rough, probably more so than the shells of smaller nuts. [The first thing to determine is whether some Bijou walnuts were not planted. If so, this removes the mystery. The French variety, Bijou, is as large or larger than the dimensions given.]

**PRUNE PRICES.**—San Jose Mercury: A few sales of dried prunes on the 2½c. basis were reported last week. Many of the growers are, however, holding for a higher figure.

**BIDDING UP ON GRAPES.**—It is reported among grape growers that the California Wine Association has increased its bid for grapes to \$18. This rise in price is attributed to the fact that the combine was unable to get grapes at any lower figure. The favorable weather of the last week or ten days has not hastened maturity of the vintage, in consequence of which the growers have not been pressed to a speedy disposal of their crop. A number of varieties of the grapes will be some considerable time in ripening, and in the opinion of some of the growers it is quite probable the Wine Association may be compelled to bid higher than it has yet done.

**LARGE PRUNES.**—Los Gatos Mail: A prune branch, 18 inches long, was brought to the Mail office yesterday afternoon from the orchard of Ed. Howe, in Union. The branch bore fifty-five prunes about the 20-30 size, and Mr. Howe has a whole orchard of them.

### Sonoma.

**SOLD FINE PRUNES.**—Santa Rosa Republican: J. Garliando, who owns a place across the Russian river from Healdsburg, has disposed of his crop of prunes to the Merritt Fruit Co. The crop was raised on twenty-two trees and averaged 40-50s throughout. The price paid was \$92.50 per ton.

**FROM PRODUCER TO CONSUMER.**—The Petaluma Poultry Keepers' Association will endeavor to secure the co-operation of every egg producer in the county, and the placing of a man in San Francisco to sell the eggs of the county direct to the consumer.

**APPLES PAY \$25 PER TREE.**—From a single apple tree in the orchard of Losson Ross, the Forestville pioneer, fifty boxes of apples were gathered this fall. These were disposed of at 50 cents per box, after being placed on board cars at Forestville, to be shipped to San Francisco. The apples were of the Ben Davis variety and this one tree earned \$25 for its owner. The trees, of which Mr. Ross has many, are planted 20 feet apart, or 108 to the acre.

**SEBASTOPOL GRAPES SOLD.**—Analy Standard: Quite a large number of grape growers in this section have sold their grapes in a body to a winery in San Francisco for \$15 per ton cash, f. o. b. at Sebastopol.

**SHIPPING FRENCH PRUNES TO FRANCE.**—Santa Rosa Democrat: It is estimated that 300 tons of this season's dried prunes have been shipped from Santa Rosa to France. The prunes cannot be shipped fast enough to fill the orders the packing houses have on hand at the present time. Each day brings fresh orders and the fruit is being hur-

ried ahead as fast as possible under the circumstances. The shippers cannot get cars enough and the dearth of cars is causing considerable inconvenience. Many more hundred tons will be shipped from Santa Rosa.

**BIG HOP YIELD.**—Healdsburg Enterprise: J. Boone Miller's ranch is situated about 6 or 8 miles south of Healdsburg, in the Russian river valley. He has sixty acres planted to hops and the crop this year, he says, was a trifle larger than last. The total yield this season was 654 bales, averaging 195 pounds to the bale, or over 10 tons to the acre. The income from the sixty acres, at 25 cents per pound, is over \$25,000. Of course, this is not all profit, but it is safe to say that Mr. Miller will clear at least one-half the amount.

### Sutter.

**MONEY IN BEANS.**—Independent: John A. Payne of No. 70 district has cleaned up the neat sum of \$1800 from twenty-five acres of beans. The crop in No. 70 is said to be the best raised there for many years and the late dry season furnished the growers excellent opportunity for saving the crop. Four cents per pound is reported as the price paid.

**RAISIN PRICES.**—Yuba City Farmer: The growers of Thompson Seedless raisins are not well satisfied with the way prices on this class of raisins have opened. The Fresno Association fixed the price for unbleached at 6 cents per pound, but with the discounts, etc., the rate is much lower. Prices here are from 5½ cents to 5½ cents per pound, besides boxing. No price has as yet been fixed on the bleached product. As the Muscatel raisins are quoted at about 4½ cents, the growers think there is not enough difference, and that the Seedless product should be much higher.

### Tulare.

**AN AVERAGE CLING.**—Exeter Sun: We have an orange cling peach which was grown on the Fred Maxon place north of town. The peach, which is a beauty, though not the largest one by any means on the tree, will easily measure 3 inches in diameter, and was grown without irrigation.



Warranted  
to give satisfaction.

## GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and  
positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

### RAILROADS USE

## Truss and Cable Fence Wire

BECAUSE  
It is easy to erect.  
No skill is required.

No expensive special tools are necessary.

Costs less to erect.  
Comes in small and compact packages.

Easy to handle.  
Strongest, handsomest and most durable.

It is a fencing good enough to demand investigation on your part.

Write for descriptive circular.

Pacific Hardware & Steel Co.

401 Mission Street, San Francisco.



## THE HOME CIRCLE

### Fair Day.

Old Farmer Boggs of Boggy Brook  
Went to the County Fair,  
And with his wife he strolled around  
To see the wonders there.  
"That horse," he said, "Gray Eagle  
Wing,  
Will take the highest prize;  
But our old Dobbin looks as well,  
And better, to my eyes.  
He is, I know, what folks call slow—  
It's far the safest way to go.  
Some men, perhaps, might think it  
strange,  
I really should not like to change.  
"And those fat oxen—Buck and Bright  
Don't have so large a girth,  
No match like them, just to a hair;  
But I know what they're worth.  
They're good to plow and good to draw,  
You stronger pullers never saw,  
And always mind my 'gee' and 'haw,'  
Some folks, perhaps, might think it  
strange,  
I really shouldn't want to change."  
"That Devon heifer cost, I heard,  
A thousand dollars; now,"  
Said Mrs. Boggs, "my Crumple Horn  
Is just as good a cow.  
Her milk I'm sure's the very best,  
Her butter is the yellowest,  
Some folks, perhaps, might think it  
strange,  
I really shouldn't want to change.  
"Those premium hogs," said Mrs. Boggs,  
"My little Cheshire pig  
Is better than the best of them,  
Although he's not so big.  
And that young Jersey is not half  
So pretty as old Brindle's calf;  
Nor is there in the poultry pen  
As Speckled Wings so good a hen!"  
As Farmer Boggs to Boggy Brook  
Rode homeward from the Fair,  
He said, "I wish my animals  
Had all of them been there;  
And, if the judges had been wise,  
I might have taken every prize!"  
—Marian Douglas.

### A Culinary Waterloo.

Mrs. Newton took a last peep at herself in the dining-room mirror and gave her veil a little twitch.  
"Now, boys, you know I won't be back before nine," she said, lifting her skirt with a silken swish. "Are you sure you're equal to getting yourselves something to eat, or shall I have two starving relatives to feed on my return?"  
Newton caught up a silver tray from the sideboard and struck a haughty attitude.  
"Don't think for a minute that I spent two years as head waiter at Sherry's for nothing! Wait till you see us distinguish ourselves. We're only too anxious to build something decent to eat since the last girl left, eh, Jack?"  
Jack Murray nodded with a grin. "Scrambled eggs, salads and shredded doormats, likewise canned arrangements and angel food, while all right at intervals, begin to pall as daily nourishment. You're all right, Polly, you look stunning, ornament to any apartment, grace any occasion, however swell, but truth compels me to say that you can't cook."  
"The dinner which we shall serve to-night," began Newton, impressively, "will be a triumph in the culinary line."  
"If there's any special dish you're fond of we'll include it in the repertoire."  
"Thanks, awfully," replied Mrs. Newton, sweetly. "You boys are such a comfort. I shall be desperately hungry after that sail, so see that you have something nice and hot for me when I come home. Do I look all right, Bobby?"  
"Bless your little patent leathers, you're a dream of beauty." He kissed her affectionately. "Er—I say, Paul, thought you were going to have dinner with the Nortons. Shall we really save something for you?"  
"Yes, dear. If I stayed with them

it would be awfully late when I got home, and I couldn't bear to leave you so long. See that he behaves, Jack," she smiled bewitchingly at Murray.  
"See here, Jackie," said Newton, pensively, "she's your cousin, I know, and nobody could object to your kissing her occasionally, but—er—couldn't you do it a little more casually, so to speak?"  
"My, but you're the jealous child!" remarked Jack, good-naturedly, slapping him on the shoulder as Mrs. Newton closed the door. "But about that dinner, Bob, I can readily see, even with my limited intelligence, that we've got to get out the saucepans. No dinner at the Lindens for us to-night, I perceive. Thus perish our fond hopes. Got a cook book around here anywhere?"  
"Here," replied Newton, promptly diving into a kitchen cupboard. "Hints to Young Housewives. Just the thing we're after. Let's see, H'm—we might take some of that canned beef and—"  
"Not so," replied Jack, gloomily; "just recall my sarcastic remarks about canned food, will you? The easiest thing is steak. Got any?"  
Newton rushed to the ice chest. Nothing to even suggest an animal," he groaned. "We've got to get some. Come ahead."  
"How much does she usually get?" inquired Jack a little later, as they faced the butcher in his white apron.  
"Hanged if I know. Give me three pounds."  
The butcher flopped a huge slice on the scales.  
"Dot's tree und a haf. Dot's all right, ain't it?" he inquired.  
"Yes. Here, take it, Jack, and let's get out."  
Outside Jack paused. "Just stamp some of that sawdust off your shoes, Bob. You look like a saw mill."  
"Look at your own," returned Newton courteously. "Say, Jackie, run back and tell the butcher we're sorry we took so much sawdust off his floor."  
"Go yourself. I'm hungry, and I don't care who knows it. Let's not bother with anything but steak and potatoes," he suggested, when they were once more in the flat.  
"And no dessert! Why, man, Polly has dessert, if nothing else. She'd think it was a luncheon if we didn't have something festive. There's a kind of slippery stuff you put hot water on and make puddings of. Here's a package—it's easy, let's make that first. Three cups of boiling water—get the saucepan, Jack. Hold on—I heard Polly say that was too much water for the stuff. We'll try two cups and a half. Let's hunt for the potatoes."  
"Discovered," said Jack promptly, opening a big bag. "I'll cook two for you, two for me and two for Paul. Thinnest skinned potatoes I ever saw," he continued. "You have to cut half of 'em away to get them pared."  
"You're not trying to pare new potatoes? Scrape 'em, man, scrape 'em."  
"Oh," said Murray.  
"Now, I'll do the handsome," said Newton generously, "and confess I never knew it myself till Paul told me the other day. How's the gelatine pudding?"  
"Thin as lemonade," said Jack cheerfully, lifting the cover, "but the directions say it will thicken, and I'm full of faith."  
"Wish I was full of dinner," remarked Bob sadly. "Gee whiz! I never realized what a job the little lady has before her each day. Look at your hands! Don't the potatoes give 'em a lovely tint? Wonder how Paul manages to keep hers so white?"  
"Gloves, probably," said Jack laconically. "Guess I'll cut up the potatoes and they'll do quicker. What'll I boil 'em in, Bob, and why does she keep one little saucepan inside another?" he inquired interestedly.  
Bob looked disgusted. "Got an inquiring mind, haven't you? That's a double kettle or boiler—I forget which. Get a single saucepan for the potatoes, and pour some of that water off the gelatine."  
"What a display of knowledge! Pity you couldn't tell how much steak three normal people could eat. You've got

enough to feed two large boarding-houses."  
"Well, tell her we thought we'd get enough for to-morrow and the next day, and she'll think we have a lot of foresight."  
"H'm. I'd like to see any one deceive Paul. How do you want it cooked? I might light one of the burners and hold it over the flame on the toaster."  
"That wouldn't be neat, and, besides, you'd lose all the juice. Just light the oven, put it on the grate, the juice drops into the pan—and there's your gravy. How's the gelatine pudding?"  
"Improving a little, I think," replied Jack, gazing into the saucepan. "The directions say boil it four minutes, and this has only been on two, so there's hope. The potatoes are done."  
"Heavens, how do women manage to get the things to come out even? Potatoes done, meat raw, gelatine half done, and when Paul cooks they're all ready together. Oven hot?"  
"Yes. Get busy with that steak. I say, Bob, these are heavy-looking potatoes. I wonder if putting them in cold water is all right! I've a sneaking fear that it ought to have been hot. What do you say?"  
"Don't say: I'm busy," responded Newton, mentally planning to ask Polly at some future time how potatoes emerged from the cooking process light and dry.  
"Here's the pudding," announced Jack, proudly. "It might be thicker, but I think it's done very well, considering the ratio of water to gelatine."  
"H'm, pretty trembly," remarked Newton critically. "If she appears to notice it, we'll remark casually that from childhood we've preferred it that way. There's some cream in the ice chest to eat with it. You'd better take the egg beater and whip it."  
Silence reigned for a moment.  
"If you'd only spatter the things on your own side of the kitchen it wouldn't be so bad," remarked Newton, plaintively, removing a large white polka dot from his left sleeve.  
"Attend to that steak, child," returned Jack, briefly; "I'm happy."  
"I tell you this steak is going to be the finest thing in the exhibit," announced Bob, drawing it forth.  
"Done to a turn," commented Jack, approvingly. "Now for the gravy. How do you make it?"  
"A little flour and a little water stirred in the pan," said Newton airily. "Nothing simpler. Hand me that bag on the lowest shelf." He stirred briskly with a silver teaspoon and poured the gravy over the steak.  
"Now let's feed."  
"These potatoes aren't so bad," remarked Bob when they were seated. "Don't know but what we can stand up for our professional reputations, even if we did have to act on the spur of the moment."  
He tasted the meat critically, looked puzzled an instant, and stared at Jack.  
"I say," he demanded, "what bag did you get that flour out of?"  
The bell rang through the house. "B-u-r-r, b-u-r-r, b-u-r-r—"  
"Good Lord, that's Polly!"  
"The one you pointed to, of course! What in thunder is the matter, anyhow?"  
Bob sank dramatically onto a chair. "Nothing—oh, a mere nothing," he said gently; "only that we made the gravy with confectioner's sugar instead of flour, and Polly's at the front door."  
—Helen Chalmers Nowell.

### Looking for Flaws.

Charles Lamb tells of a chronic grumbler who always complained at whist because he had so few trumps. By some artifice his companions managed to deal him the entire thirteen, hoping to extract some expression of satisfaction, but he only looked more wretched than before.  
"Well, Tom," said Lamb, "haven't you trumps enough?"  
"Yes," grunted Tom, "but I've no other cards."  
This chronic grumbler of Lamb's is found in endless variety. Perhaps the most numerous of the species is represented by the man who is always look-

ing for flaws—one of those blue-speckled people who see nothing but mud when they look on the ground and only clouds when they look at the sky. One of those gentlemen was once asked to look at the sun through a powerful telescope and describe what he saw.  
"Why," he said, after a few moment's study, "I see nothing but a few black specks."—Success.

### Facts About Oyster Farms.

Oyster farms are far more profitable than are those upon which corn and wheat are raised. This is a new industry in our country, but it is very old in some parts of the world. As long ago as the seventh century a Roman knight raised oysters for the market, and it is said that the business made him very wealthy.  
Except for the first few days of their lives oysters are prisoners, being attached to rocks, to the shells of their dead relatives and to other objects. They grow in immense numbers and crowd one another more than people do in tenement houses. In fact, most of them are soon crowded out and die.  
Oyster beds are not found in very deep water, but rather along the shore, generally near the mouth of some river. The oysters generally live where they are uncovered when the tide goes out, and on this account, partly, man has used them for food for ages. When the Pilgrim Fathers landed on the shores of New England they found that the Indians used oysters very commonly, and all along the coast were great heaps of shells. At the very first Thanksgiving dinner given in America oysters were served.  
The oyster farmer prepares his farm in various ways. He places clean oyster shells, stones, trays, bundles of sticks and other things on the bottom, so that the oysters may find something to which to attach themselves. Then he places the young oysters, or spat, on these objects. When trays are used, several are placed, one upon another, and bound together by means of a chain. These trays are taken up from time to time, in order to gather the oysters that are ready for market. Sometimes stakes are planted in a somewhat circular form, cords are attached to the stakes, and bundles of sticks are fastened to cords in such a way as to keep them a little above the bottom. Young oysters attach themselves to these sticks, which may be drawn up when the proper time comes.  
Oysters grow at very different rates. In two years they may grow to be 6 inches in length, or it may take them several years to reach that size. They grow most rapidly on the artificial beds, and are also of a better quality than the natural.  
The starfish is one of the greatest enemies of the oyster, large numbers of which it destroys every year.

### Are You Full of Magnetism?

It is not generally known, but often, when a man's watch refuses to keep good time the fact is due to the magnetism of his body, says the New York Telegram. This is vouched for by a well-known jeweler, who, in talking to a customer yesterday, declared the electricity in the body sometimes makes it impossible for a man to get any use from a watch that is not non-magnetic.  
"I had one customer," the jeweler said, "who had trouble with his watch for years, and when he purchased a new and more expensive one he had no better luck. Finally, after he had left other jewelers in disgust, he came to me. I tested him with several watches, and then decided that the trouble was with him and not with the watches. He has a non-magnetic watch now, and it keeps perfect time."  
"It is a thing I do not understand, but the electricity in the human body certainly has an effect upon watches. Generally the effect is too small to be noticed, but I know of one man who cannot carry an ordinary watch and keep it going. It invariably stops after he has worn it a few days and refuses to run. When I carry it it keeps excellent time. The magnetism in dif-



ferent persons varies to a marked degree, and often one man can carry a watch and have it keep good time, when another person would find the same watch useless. If a man has a good watch and it fails to keep good time he can be pretty sure it is because his body is too heavily charged with electricity."

### Luxuriant Hair.

"Nearly every girl can have luxuriant hair if she knows how to cultivate it properly, but 99 out of 100 are ignorant as to the right methods to employ," said the hairdresser to President Roosevelt's family, in conversation with a New York Tribune reporter, while in the city recently. "The principal thing to look to," he continued, "is to keep the hair and scalp thoroughly clean, but not overdo it. For a normal head of hair shampooing once a month is quite sufficient if one is living in the country. In large cities, however, where there is generally a lot of dust and smoke flying around, a shampoo twice a month does no harm."

"Many have a habit of putting a lump of soda in the shampooing water, because it makes the hair fluffy and dries it quickly. I never advise my women patrons to do that, for the reason that it renders the hair brittle and fades the color. The best shampoo 'powder' I know of is the yolk of an egg beaten in a cup of cold or tepid water. This, when rubbed well into the scalp by the tips of the fingers, cleanses the scalp perfectly, besides acting as a tonic to the hair. I may say, however, that if it is not washed off thoroughly with several rinsing waters—two waters, at least—it becomes injurious."

"The best way of shampooing the hair is always to turn it over the face after brushing it well up from the back. Then, when it is washed, divide it by a parting through the center of the head, and let it fall down over the shoulders after squeezing out all the water possible by twisting it tightly. The hair should never be dried quickly by sitting in front of a stove. A little gentle fanning is the best way, but first rub a little alcohol into the roots. This prevents catching cold. Rub the hair with warm towels, and when perfectly dry divide it into strands, and comb out the tangles, beginning at the ends."

"Plain cold water is undoubtedly the best tonic for the hair, and the scalp should be massaged every morning, for, say, five minutes, with the fingers dipped in cold water. A gentle pulling of the hair against the roots is also a good thing, in that it stimulates the circulation. The hair, too, should be brushed for ten minutes night and morning with a long, stiff bristled brush."

He then gave the following lotion for dandruff, which he claims to be effective: "One teaspoonful of powdered borax, half a teaspoonful flour of sulphur, six ounces of rosewater and one ounce of spirits of rosemary."

### Make Exercise a Habit.

Exercise is much more necessary to human life than most women think.

Healthy stimulation is an absolute need; without it the body will rust and fall to bits. The baby that never creeps about or kicks or exercises at all either wastes into a tiny midget of bones and wrinkles, or else takes on pounds of unhealthy fat and becomes soft and short-breathed and without vitality.

The brain that never calls upon itself for work must become dull and stupid, and it is the same way with the muscles of the body. They are filled with blood vessels that should be up and doing. The blood has several purposes, and one is to carry away much of the waste fluids of the body. The lungs are a sort of refinery, and the blood is a distilling agent. If the blood becomes thick and unhealthy and sluggish the body does not keep its youthful state. Eyes grow dull; lips lose their redness; the complexion is sallow and unlovely, says the Chicago Record-Herald.

It is an easy and simple matter to make exercise a habit—just like the

habit of putting out the lights at night, and wondering if burglars will show up before morning.

A most excellent scheme is to take long, full breaths, whenever you have a chance; when you are waiting for a car, when you are walking, when you are going to sleep, when you have just awakened.

Such habits are valuable, most valuable, but because they don't cost anything and are a little trouble, lots of women fancy there is nothing in such practices. Nonsense! Look at the athletic men that train. They are the healthiest, strongest, finest-looking creatures in existence.

Go thou and do likewise on a little scale.

### Riddles.

Who is the man that works with a will? The probate judge.

Which is the queen of the roses? The rose of the watering pot which rains (reigns) over them.

Why is the moon like a sword? It is the glory of the knight.

Who was the first whistler, and what air did he whistle? The wind, and he whistled "Over the hills and far away."

What is the numerical difference between four and two and two and two and four? In one case they make forty-two, in the other twenty-four.

What is the difference between a talkative person and a looking glass? The one speaks without reflecting, the other reflects without speaking.

When is a bonnet not a bonnet? When it becomes a young lady.

Name the best sea to sleep in. Adriatic (A-dry-attic).

Which is the best, five dollars in gold or a five-dollar bill? A five-dollar bill, because it is doubled in your pocket, and when you take it out you see it in creases.

Why is your nose in the middle of your face? Because it is the center (scenter).

Why is the grass you walk on older than yourself? It is pasturage (past-your-age).

Why is a cross husband like a bad fire? Both flare up, look black and go out.

What is the difference between a donkey and a postage stamp? One you lick with a stick, the other you stick with a lick.

What is that of which the common sort is the best? Sense.

When is an altered dress like a secret? When it is let out.

### Humorous.

Mrs. Wise (reading)—A horse can draw fifteen times his own weight.

Mr. Wise—So can a mustard plaster.

"He named his motor car after his wife."

"How funny!"

"Not at all funny. After he got it he found he couldn't control it."

"Are the mosquitoes very bad around here?"

"Bad!" echoed the native, derisively. "Mister, did you ever hear of a mosquito bein' converted?"

Stranger—Where does this road go to, my boy?

Boy—I don't believe it goes anywhere. I always find it here when I come to work in the morning.

Smithers—Do you know any one who has a horse to sell?

She—Yes, I expect old Brown has.

Smithers—Why?

She—Well, papa sold him one yesterday.

"Yes," said Miss Howells, after her solo, "I intend to go abroad to finish my musical education."

"Huh!" snorted Miss Growells, "why not finish it right now, and save the expense."

Governess—Now just one more subtraction sum—

Dolly—Oh, Miss Crawford, I don't fink Mummie would let me do any more of those sums, 'cause in them you borrow 10 and pay back only 1, and that's cheating!

### Hints to Housekeepers.

A little sugar added to the water used for basting the roast, especially if it be veal, improves the flavor.

Fish, particularly the salt water kind, is better if, when it is boiled, a cupful of good cider vinegar is mixed with the water.

Feather pillows, if the covers are quite clean, are benefited by leaving out in a rain, afterwards sunning them for several days on the clothesline. Down quilts may be treated similarly, without the slightest danger of injury. There will be some shrinkage.

Sardines grilled in the chafing dish is a good course with which to begin a Sunday night tea. Drain the oil from a box of fair-sized sardines, and when the blazer is hot lift each carefully into it on the blade of a knife. Saute the sardines slightly, turning carefully. Sprinkle over each a few drops of lemon juice, and serve them on small squares of toasted bread or sandwich style between saltine crackers.

There will be less waste of the spinach juices if the vegetable is cooked without water. The succulent leaves contain so large a proportion of water that the liquid left on them after their washing will be sufficient to keep them from burning. Cooked in this way the spinach should be brought to a heat very slowly. When it is tender it should be drained in a colander, chopped fine and seasoned with butter, salt and pepper.

Pickled cauliflower makes an appetizing luncheon or supper relish. Cut a cauliflower into sprigs, put them into boiling salted water and boil for ten minutes. Then strain and pack them with a few whole cloves into the bottom of a jar. Let them stand over night. The next day heat a cupful of vinegar to the boiling point, season with a teaspoonful of English mustard, and turn it over the vegetable. There should be vinegar enough to cover it. Cover the jar tight and leave it for four or five days.

A professional cleaner says that the best method of cleansing lace curtains at home is to make a suds of warm water, white castile soap and a little borax. If the curtains are very dirty, scrub them very gently with a soft scrubbing brush. Lace curtains should never be rubbed between the hands. This stretches the mesh and is very likely to tear holes in it. When quite clean, rinse in clear water to which a little borax has been added, squeeze between the hands, but do not wring, and dry in a sheet.

No relish is more delicious with cold meat than spiced blackberries. For each quart of ripe berries allow half a pound of sugar, and for each four quarts half a pint of vinegar and half an ounce each of cloves, allspice and cinnamon. Put the berries, the sugar and the vinegar into a preserving kettle. Tie all the spices together in a bag of coarse muslin and add to the fruit. Then place over the fire. Heat slowly and boil for four minutes. Then remove the berries with a skimmer and place them in a sieve. Return the syrup that drips from this into the kettle and let it boil until it threads. Put the berries into a large jar and pour the hot syrup over them, or pack in patent jars in the same manner. Cover tightly and store in a cool place.

Of the making of baskets there is no end, for the girl of the period has put into Indian weaves all the enthusiasm she formerly brought to bear on her painting and bicycling. Big tray shapes, useful alike for the family mending and the pasteboards of visitors, offer broad surfaces for experimental stitches and designs. One of the kind recently finished is made of stout rattan in the natural shade, with an overlapping series of curves along the sides in a foliage green color. But the strong rattan can be manipulated only by fingers to the manner trained. Finer materials are preferred by beginners at the art. The acme of the enthusiastic basket maker's ambition is to color her own fiber, and in so doing many a girl is obtaining unique and original effects.

### Domestic Recipes.

**LEG OF MUTTON A LA PORTUGAISE.**—Select a medium-sized leg of mutton or lamb, turn well and make an incision in the first joint. Season the meat with salt and pepper, rub a little butter over it and roast in a quick oven for one hour. Turn the roast two or three times while it is cooking, and remember that it should be well done. In the case of mutton the blood should follow the knife when it is cut. Serve on a hot platter with timbales of rice. To make the timbales fill six small well-buttered moulds to about half their height with hot boiled rice, well pressed down, and place them in a hot oven for two minutes. Place a small stuffed and roasted tomato on each timbale and arrange them around the meat.

**LEMON SOUFFLE PUDDING.**—It is the pastry cream, same as used in Boston cream puffs, with white of eggs whipped to froth, stirred in and then baked. It rises high in the oven; should be served immediately, or, at least, not allowed to become cold. Use a quart of milk, eight ounces of sugar, five ounces of flour (a heaped cup), an ounce of butter, eight eggs. The yolks cooked in the mixture, which must then be made nearly cold and flavored with lemon and the eight whites then added; a spoonful of sweetened cream in each dish for sauce.

**BROILED MUSHROOMS ON TOAST.**—Pare neatly, wash well and dry in a cloth a pound of large, fine mushrooms. Season them with salt and pepper and a tablespoonful of sweet oil, and broil them for four minutes on each side, first on the gill side and then on the other. Dip six slices of toast in a little butter and milk and lay the mushrooms on them, being careful not to disturb any liquid that may have settled on the gills while they were broiling. Then spread a little butter on them and add salt and pepper and a few drops of lemon juice.

**SAUCE ALLEMANDE.**—Melt two ounces of butter in a saucepan on a slow fire, with three tablespoonfuls of flour to thicken. Stir well, not letting it brown; then moisten with one pint of white broth, beating constantly, and cook for ten minutes. Dilute three egg yolks separately in a bowl; pour the sauce over the eggs, a very little at a time; strain through a Chinese strainer, and finish with half an ounce of good butter and the juice of half a lemon, taking care that it does not boil the second time.

**ITALIAN SALAD.**—Butter an oval mould slightly, then arrange cooked macaroni and truffles around the sides. Grate six cucumbers, add to half pint of water, with slice of onion; simmer five minutes; remove onion and add one tablespoonful salt, one-fourth teaspoonful white pepper, one tablespoonful gelatine, softened, two tablespoonfuls white wine vinegar; line the mould with this, also; then add any preferred meat, fish or fowl, cut fine with celery, green peppers, moisten with seasoned and stewed tomatoes. Set on ice until firm. Garnish with mayonnaise and parsley.

**GREEN TOMATO PIE.**—This pie should be made with upper and lower crusts of plain paste in the usual manner. For the inside slice the tomatoes thin, arrange on the lower crust, add one-half cup of sugar, the juice of one lemon and a sprinkling of cinnamon.

### Age Before Beauty.

"Yes," said the old man addressing his young visitor, "I am proud of my girls, and would like to see them comfortably married; and as I have a little money, they will not go to their husbands penniless. There's Mary, twenty-five years old, and a real good girl. I shall give her \$5000 when she marries. Then comes Bet, who won't see thirty-five again, and I shall give her \$10,000, and the man who takes Eliza, who is forty, will have \$15,000 with her."

The young man reflected a moment or so, and then inquired, "You haven't one about fifty, have you?"—The Mystic Tie.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, October 14, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	77 1/2 @ 77 3/4	77 3/4 @ 78 1/4
Thursday	77 3/4 @ 78 1/4	78 @ 79
Friday	79 1/2 @ 78 1/4	79 @ 78 1/2
Saturday	78 1/2 @ 79 1/4	78 1/4 @ 79 1/4
Monday	79 1/2 @ 78 3/4	79 1/2 @ 78 3/4
Tuesday	78 1/4 @ 79 3/4	78 1/4 @ 79 3/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	44 1/2 @ 45 1/4	43 3/4 @ 44 1/4
Thursday	45 @ 45 1/4	44 1/2 @ 44 3/4
Friday	45 1/2 @ 45 1/4	44 1/2 @ 44 3/4
Saturday	45 @ 45 1/4	44 @ 44 3/4
Monday	45 1/2 @ 44 1/2	44 1/2 @ 43 3/4
Tuesday	44 1/2 @ 45 1/4	43 3/4 @ 44 1/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 40 1/2 @ 1 40	\$1 41 @ 1 41 1/2
Friday	1 40 1/2 @ 1 38 3/4	1 40 1/2 @ 1 40 1/4
Saturday	1 39 1/2 @ 1 39 1/2	—
Monday	1 39 @ 1 39 1/2	1 39 1/2 @ 1 39 3/4
Tuesday	1 39 1/2 @ 1 39 1/2	—
Wednesday	1 40 @ 1 41 1/2	—

### Wheat.

The local wheat market has presented a little better tone the past week than at a previous time the current month, although in the matter of quotable values there has been no particular improvement. The change for the better was principally to this extent, that previous prices were better sustained and there was a little more disposition shown on the part of buyers to operate at current rates. Eastern and foreign advices were in the main more encouraging, English and French markets being quoted higher and demand more active. Chicago included in favor of the selling interest a great part of the week, owing to the improved tone in foreign quarters. Prices ruling here, however, are still above the parity of European and Eastern markets, with ocean freight rates the lowest ever recorded. Two ships went under charter this week for barley and wheat for Europe, the wheat required for stiffening to be carried at 11s 3d per ton, and barley to be taken as main cargo at 13s 9d and 13s 6d. These are losing figures to ship owners. The extremely low freight market has been largely the result of cutting competition of French ships, running on Government subsidy. There are only a few French vessels now here on the disengaged list, and while the supply of ocean tonnage is sure to be in excess of the demand during the entire season, with the French fleet out of the way, any changes in ocean freight rates will be more apt to favor the ship owner than the shipper. The general undertone of the wheat market, however, is healthy. Based on last year's consumption, the world's present supply of wheat appears to be barely enough for the current year's requirements.

California Milling	\$1 50 @ 1 55
Cal. No. 1 shipping, alongside	1 40 @ 1 42 1/2
Oregon Club	1 40 @ 1 45
Washington Blue Stem	— @ —
Washington Club	— @ —
Off qualities wheat	— @ —

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.39 @ 1.41 1/4.  
May, 1904, delivery, \$1.39 1/4 @ 1.41 1/4.  
Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.40 @ 1.41 1/4.  
Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	6s 4 1/2 @ 6s 5d	s-d @ s-d
Freight rates	— @ 20s	11 1/4 @ 13 1/2s
Local market	\$1 18 1/2 @ 1 21 1/4	\$1 40 @ 1 42 1/4

### Flour.

Current values are being tolerably well maintained. There is a brisk demand for the Orient, to take advantage of existing freight rates, as the steamships plying between here and Asia announce a sharp advance in carrying charges to go into effect the coming month. Trade on local account is only of moderate volume. Stocks of extras are of fair proportions, but superfines are in light supply.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Fancy brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	3 50 @ 4 00
Washington, Bakers' extra	3 50 @ 4 15

### Barley.

Market has shown a firmer tone, especially for high-grade feed barley, considerable quantities of which are being taken by shippers, the barley after being run through cleaners going aboard vessels for Europe, and the refuse is ground up for local feed. The season's exports of barley now aggregate nearly 100,000 tons, and are close to last season's figures at corresponding date, while the outward movement of wheat is not 15% of the quantity

which had been shipped during corresponding period last season. Two vessels were added to the engaged list this week to take barley as main cargo, one at 13s 9d per ton, the other at 13s 6d, both to Cork for orders to United Kingdom, Harve, Antwerp or Dunkirk. Five barley cargoes were cleared from this port for Europe the current week.

Feed, No. 1 to choice	\$1 15 @ 1 16 1/4
Feed, fair to good	1 12 1/2 @ 1 13 1/4
Brewing, No. 1 to choice	1 20 @ 1 22 1/2
Chevalier, No. 1 to choice	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair	1 12 1/2 @ 1 32 1/2

### Oats.

Demand has been fairly active for this cereal the past week, especially for desirable seed qualities, and market has inclined in favor of sellers, although in quotable values there were no special changes. There are fair supplies of Whites and Reds, but stocks of Blacks are decidedly limited, especially of choice to select quantity.

White oats, fancy feed	\$1 30 @ 1 32 1/2
White, good to choice	1 25 @ 1 27 1/2
White, poor to fair	1 20 @ 1 22 1/2
Gray, common to choice	— @ —
Milling	1 25 @ 1 30
Surprise, good to choice	1 22 1/2 @ 1 32 1/2
Black Russian feed	1 15 @ 1 30
Black for seed	1 45 @ 1 60
Red, fair to choice	1 15 @ 1 30

### Corn.

Arrivals have been showing some decrease, but there is more large corn on the market, principally Eastern product, than immediate custom can be secured for at extreme current figures. Values for Large Yellow and Large White are inclining against sellers. Small Yellow is in too limited stock to admit of wholesale operations.

Large White, good to choice	\$1 35 @ 1 40
Large Yellow	1 35 @ 1 40
Small Yellow	1 70 @ 1 75
Eastern, in bulk	1 27 1/2 @ 1 32 1/2

### Rye.

There are no great quantities offering, either on the spot or to arrive. Market is firm at the figures quoted.

Good to choice, new	\$1 25 @ 1 30
---------------------	---------------

### Barley.

Not enough doing in this cereal to admit of more than nominal quotations. Desirable lots could be readily placed.

Good to choice	\$2 00 @ 2 50
----------------	---------------

### Beans.

There has been considerable business in beans the past week, mainly in Large Whites, Bayos and Pinks, but at lower figures than last quoted. Some of the growers on the Sacramento River were in need of coin and were crowding holdings to sale, dealers taking advantage of the situation to depress prices. Sales of Bayos and Pinks over \$2.50 were the exception, and for Large Whites \$2.75 was a quotable extreme not readily secured in a wholesale way. There was some hurry to get certain shipments by rail on the road before Monday, when a new rule went into effect making the minimum weight per ear 20 tons, instead of 15 tons as formerly had been the case. Market for Limas presented an easy tone and was notably lower, with offerings of this variety mainly from Southern coast points of production.

Pea, fair to good, 100 lbs.	\$3 10 @ 3 30
Small White, good to choice	3 00 @ 3 15
Large White	2 50 @ 2 75
Pinks	2 40 @ 2 65
Bayos, good to choice	2 40 @ 2 65
Reds	2 50 @ 2 80
Red Kidney	— @ —
Limas, good to choice	3 20 @ 3 30
Black-eye Beans	2 60 @ 2 75
Garbanzos, large	2 00 @ 2 25
Garbanzos, small	1 25 @ 1 50

### Dried Peas.

Increased offerings, with no corresponding increase in the demand, have caused the market to incline less in favor of buyers, but quotable values are without perceptible decline. Arrivals are principally from Humboldt and Monterey counties.

Green Peas, California	2 00 @ —
Niles Peas	2 35 @ —

### Hops.

The local market is showing less activity, so far as the demand for offerings from first hands is concerned, dealers being apparently well stocked for the time being. While asking rates of growers have not changed materially, to effect free sales in this center at present, concessions from figures lately current would have to be granted buyers. A New York authority, under recent date, gives the following: "A further advance has been established all along the line in sympathy with still higher prices ruling at all primary points. The demand here has been very moderate, however. Brewers are buying a few of the new hops to mix in with the older lots, and dealers have taken on only sufficient supplies to meet current necessities. Because of the higher cost it has been necessary to ask more money and the business doing within the past few days has been about in line with

our revised quotations. Country dealers have been quite largely buyers of hops in this State and have paid 29 @ 30c. for good to choice brewing hops; some choice shippers have sold up to 31c. Growers are assuming a very confident attitude. London mail and cable advices indicate fair business at unchanged prices, but the German markets show a recovery of 10 @ 15 marks, with a very strong tone.

California, good to choice, 1903 crop	21 @ 24
---------------------------------------	---------

### Wool.

The local market is extremely quiet, if there can be said to be any sort of a local market at present. Dealers are confining their purchasing almost wholly to the interior, leaving little else at the moment upon which to base quotations. A number of local operators are now in the northern part of the State, looking after the portion of the Fall clip in that section which has not yet been placed.

### FALL.

Humboldt and Mendocino	12 @ 14
Mountain, free	11 @ 13
San Joaquin Plains	8 @ 11
Nevada	12 @ 16

### Hay and Straw.

Immediately following last review, quotations for horse hay were further advanced, with stocks now all practically under cover and warehouse charges on the same. Alfalfa hay is still arriving from the field and no marked improvement has yet been established in quotable values for this description. High grade Wheat is in lightest supply, and market for same decidedly firm, there being a good demand, both for shipment outward and to interior points.

Wheat, good to choice	\$13 00 @ 16 50
Wheat and Oat	12 50 @ 15 50
Oat, fair to choice	11 50 @ 14 50
Barley	9 50 @ 13 00
Clover	10 00 @ 11 00
Alfalfa	10 00 @ 11 50
Stock Hay	— @ —
Compressed	13 00 @ 16 50
Straw, per bale	50 @ 65

### Millstuffs.

Bran and Middlings were in only moderate supply, and were rather firmly held, with demand from the dairy districts on the increase. Tendency of Rolled Barley was against the buying interest. Market for Milled Corn products was barely steady.

Bran, per ton	\$22 00 @ 23 00
Middlings	25 00 @ 26 00
Shorts, Oregon	22 00 @ 23 00
Barley, Rolled	24 00 @ 25 00
Cornmeal	31 00 @ 32 00
Crimped Corn	31 50 @ 32 50

### Seeds.

Market for the several kinds quoted herewith has developed no important changes since last review. Spot stocks of Mustard are light, but there is some offering by sample from southern producing points. Values for Alfalfa remain undetermined, with practically no stocks here at present. Offerings from Utah are expected to soon put in an appearance.

	Per cwt.
Alfalfa, Utah	— @ —
Alfalfa, Cal., good to choice	— @ —
Flax	\$2 25 @ 2 50
Mustard, yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25
Canary	5 @ 5 1/2
Rape	13 @ 14
Hemp	3 1/2 @ 4
Timothy	6 @ 6 1/2

### Honey.

The outward movement continues lively. Three sailing vessels clearing the past week for England took an aggregate of 876 cases Extracted, making the shipments from this port by sea in the past fortnight over 1500 cases. There have been tolerably heavy receipts in the meantime and there is still considerable offering. Market is rather easy in tone, extreme current quotations being more in accord with the views of holders than with the bids of wholesale operators.

Extracted, White Liquid	6 @ 6 1/2
Extracted, Light Amber	5 1/2 @ 6
Extracted, Amber	5 @ 5 1/2
Extracted, Dark Amber	4 1/4 @ 4 1/2
White Comb, 1-frames	13 @ 14
Amber Comb	9 @ 11

### Beeswax.

There are no large quantities on the market. There is a fair shipping demand and moderate inquiry on local account at quotably unchanged values.

Good to choice, light per lb	27 1/2 @ 29
Dark	25 @ 26

### Live Stock and Meats.

Market for Beef is showing steadiness. Stocks of first quality are not heavy, but the demand is only moderate. Veal is arriving freely and for the general run of offerings the market lacks firmness. Mutton was without quotable change, but for other than choice Wethers the demand was slow. Lamb now offering is mostly large, and of this sort there is an abundance. Hog market was slightly lower, but desirable packing stock met with prompt sale at the reduced figures.

Allowing for the shrinkage of about 50%, which

is exacted in huying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net per lb	6 1/2 @ 7
Beef, 2nd quality	5 1/2 @ 6
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 @ 7 1/2; wethers	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs.	5 1/2 @ 5 3/4
Hogs, large, hard, over 250 pounds	5 1/2 @ —
Hogs, small, fat	5 1/2 @ 5 1/4
Veal, small, per lb	8 @ 9 1/2
Lamb, Spring, per lb	9 @ 10

### Hides, Skins and Tallow.

Market is not showing much activity, and is not noteworthy for firmness, but in quotable values there are no special changes to record.

### Bags and Bagging.

Not much doing in this line, as is generally the case at this time of year. Calcutta market for Grain Bags is higher than the local market at present time, affording no encouragement to importers.

Bean Bags	\$ 4 1/2 @ 5
Fruit Sacks, cotton	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/4
Grain Bags, Calcutta, buyer June-July	— @ —
Grain Bags, San Quentin, in lots of 3000	5 55 @ —
Wool Sacks, 4-lb	32 @ —
Wool Sacks, 3 1/2-lb	30 @ —

### Poultry.

There was a good demand for large and fat Hens, which were quotable at \$6 @ 7 per doz., and where extra choice sold at an advance on these figures, but with this exception the market for chickens did not incline especially in favor of the selling interest. Eastern chickens were in free receipt, including considerable young stock. Fat Young Turkeys were in fair request, as were also fine Young Ducks, and no large offerings of these descriptions. Young Geese and Goslings ruled a little higher than last quoted. Choice Young Pigeons continued salable to good advantage, but market for Old was without quotable improvement.

Turkeys, young gobblers, per lb	\$ 21 @ 23
Turkeys, young hens per lb	20 @ 22
Turkeys, old, per lb	14 @ 17
Hens, California, per dozen	4 50 @ 6 00
Roosters, old	4 50 @ 5 00
Roosters, young (full-grown)	5 00 @ 5 50
Fryers	4 00 @ 4 50
Broilers, large	3 25 @ 3 50
Broilers, small to medium	2 75 @ 3 25
Ducks, old, per dozen	5 00 @ 5 50
Ducks, young, per dozen	5 50 @ 6 50
Geese, per pair	1 75 @ 2 00
Goslings, per pair	2 00 @ 2 25
Pigeons, old, per dozen	1 00 @ —
Pigeons, young	2 00 @ 2 25

### Butter.

Most of the fresh butter now arriving is more or less defective, much of it being from cows which have recently calved, and for this stock the market is slow and weak. Strictly fancy fresh is in such light supply as to be hardly quotable in a regular way. It is the exception where the best creameries are now turning out strictly fine butter. Cold storage cubes, domestic and Eastern, are being cut into squares in large quantities, and this butter is giving better satisfaction to consumers than much of the fresh now arriving. Market for held butter is ruling fairly steady.

Creamery, extra, per lb	27 1/2 @ 28 1/4
Creamery, firsts	25 @ 26
Dairy, select	23 @ 24
Dairy, firsts	21 @ 22
Dairy, seconds	— @ —
Firkin, good to choice	— @ —
Mixed Store	18 @ 20

### Cheese.

Fancy fresh is in light stock and is meeting with a tolerably firm market, but there is no scarcity of held cheese, some of it being in cold storage. Buyers who are taking well seasoned cheese, with a tendency to "sharpness" in taste, are having concessions granted them when they make noteworthy purchases. There are fair supplies of Oregon and Eastern cheese in the local market.

California, fancy flat, new	12 1/2 @ 13
California, good to choice	11 1/2 @ 12 1/4
California, "Young Americas"	13 1/4 @ 14
Eastern	14 @ 15 1/4

### Eggs.

There are few fresh eggs offering at present from any quarter, and where they are suitable for the most exacting custom, uniformly large, white and of fine quality, they are commanding fancy figures, sales being made in a small way up to 50c. Ordinary fresh, running irregular as to size and color, would not command correspondingly stiff prices, the latter having to come into competition with Eastern and cold storage eggs. There was a brisk movement in cold storage stocks, and tendency of the market on best qualities was to firmer figures. Very few Eastern fresh are now offering, either spot or to arrive.

California, select, large, white and fresh	45 @ —
California, select, irregular color & size	34 @ 38
California, good to choice store	25 @ 30
Eastern	24 @ 28

### Vegetables.

Receipts of fresh vegetables were rather



light, and included few which could be termed strictly choice. Tomatoes sold at low figures, owing to generally poor quality of offerings; a considerable quantity went to canners at 25c per box. Choice Peas and String Beans were salable to advantage. Onions were in reduced supply and market showed more firmness.

Beans, Lima, 1/2 lb.	3 @	5
Beans, String, 1/2 lb.	2 @	4
Cabbage, choice garden, 100 lbs.	60 @	—
Cucumbers, 1/2 large box.	40 @	65
Egg Plant, 1/2 box.	40 @	60
Garlic, 1/2 lb.	2 @	3
Onions, Yellow Danver, 1/2 ctn.	65 @	75
Okra, Green, 1/2 small box.	50 @	75
Peas, Sweet Garden, 1/2 lb.	3 @	3 1/2
Peppers, Green Chile, 1/2 box.	35 @	60
Peppers, Bell, 1/2 box.	40 @	65
Summer Squash, 1/2 large box.	40 @	65
Tomatoes, Bay, 1/2 large box.	30 @	60

#### Potatoes.

Market continued quiet, and most of the week inclined in favor of buyers, especially for other than fancy Burbanks, a few of superior quality from Salinas section selling in a limited way at comparatively good figures. Some Sacramento River Burbanks of prime quality sold at 70c per cental ex wharf. Sweet Potatoes were in liberal supply, and went at materially lower figures than had been ruling, with demand fairly active at the lower prices.

Sacramento River Burbanks.	\$ 50 @	80
Salinas Burbanks, 1/2 cental.	1 00 @	1 45
Petaluma and Tomales Burbanks.	65 @	90
Oregon Burbanks.	75 @	1 00
Sweets.	1 25 @	1 40

#### Fresh Fruits.

Apple market was liberally stocked with common to medium qualities, but choice to select 4-tier were not plentiful, and for latter sort there was a good demand at fully as firm figures as have been obtained the current season. Select Gravenstein and Spitzenberg were quotable up to \$1.25 per box wholesale, and in a jobbing way commanded as high as \$1.50. Round lot sales of best Bellefleurs were mainly within range of \$1.00@1.15. Small and wormy Apples sold at generally low figures. Some of fair quality changed hands at 50c per box, and poor stock sold as low as 25c. Pears of late varieties were in fair supply, with movement slow, and only for desirable Winter Nelis did the market show any special firmness. Peaches were in light receipt and offerings included few which could be termed choice. For the best stock comparatively good figures were obtainable. Not many Plums or Prunes now coming forward, neither is the inquiry for them very active, but where the quality is desirable they are salable to fair advantage. Quinces were mainly of rather ordinary quality, and for this description there was little demand, even at low prices. Figs were hardly quotable, the season for this fruit being practically ended. Grapes of most of the table varieties were in reduced receipt, and such as were in desirable condition brought better average figures than had been ruling. Seedless were not in heavy supply and sold to tolerably good advantage, as did also Royal Isabella in first-class condition. Wine Grapes inclined against sellers, especially where the fruit was over ripe and the boxes leaking, considerable of the stock showing this condition. Cantaloupes and Nutmeg Melons sold at low average prices, being mostly under choice. Strawberries and Raspberries did not make much of a display. Cranberries are arriving in moderate quantity from Coos Bay, Oregon.

Apples, fancy, 1/2 4-tier box.	\$ 1 10 @	1 25
Apples, good to choice, 1/2 50-box.	65 @	80
Apples, common to fair, 1/2 50-box.	30 @	60
Cantaloupes, 1/2 crate.	75 @	1 50
Cranberries, Coos Bay, 1/2 box.	2 50 @	3 00
Figs, Black, 1/2 box.	75 @	1 50
Figs, White, 1/2 box.	50 @	1 00
Grapes, 1/2 crate.	40 @	75
Grapes, 1/2 small box.	35 @	60
Grapes, 1/2 large open box.	75 @	1 25
Grapes, Royal Isabella, 1/2 crate.	75 @	1 00
Grapes, Zinfandel, 1/2 ton.	20 00 @	22 00
Nutmeg Melons, 1/2 box.	40 @	75
Peaches, 1/2 box.	65 @	1 00
Pears, Winter Nelis, 1/2 box.	75 @	1 25
Pears, other varieties, 1/2 box.	40 @	75
Plums, Coe's Late Red, 1/2 box.	50 @	75
Pomegranates, 1/2 regular box.	75 @	1 00
Prunes, 1/2 box.	40 @	75
Raspberries, 1/2 chest.	4 00 @	6 00
Strawberries, Longworth, 1/2 chest.	5 00 @	8 00
Strawberries, Melinda, 1/2 chest.	2 50 @	5 00
Watermelons, 1/2 100.	— @	—
Whortleberries, 1/2 lb.	6 @	8

#### Dried Fruits.

Aside from Peaches, Prunes and Apples, the offerings in the line of cured and evaporated fruits are of light proportions. Peaches have been in fairly active request, and prices have ruled slightly firmer than lately current. Market for Peaches is especially firm for standards, the preponderance of stock being of the higher grades. Current rates for the latter are being well sustained, but the entire range of values is narrower than ordinarily, owing to the light proportion of offerings of common quality. There are so few Nectarines that quotations are hardly warranted. Stocks of old Prunes have been tolerably well cleaned up, largely through the recent heavy shipments to Germany. New Prunes have been moving in moderate quantity, both

on foreign and domestic account, but largely from the stocks of outside districts, which have been obtainable on easier terms than generally demanded for the Santa Clara product. Most of the business in outside Prunes has been on the 2 1/2c basis for the four sizes in bags, while the majority of Santa Clara holders are contending for 3@3 1/4c. Apple market shows a slightly improved tone, but in the matter of quotable values there are no changes to note. Pears make a slim showing, and high grade are commanding comparatively stiff prices. Pitted Plums are in light supply and market very firm for choice. Jobbers find it difficult to fill other than small orders. Figs are not offering in great quantity, either pressed or ordinary sun-dried, but for the latter kind the demand is not brisk; quotable values remain unchanged. The steamer Ventura, sailing for Australia on the 8th inst., carried 90,000 lbs. Prunes and 60,000 lbs. dried fruit.

#### EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4 1/2 @	5
Apples, extra choice to fancy, 50-lb boxes.	5 1/2 @	5 3/4
Apricots, Moorpark.	8 @	11
Apricots, Royal, good to choice, 1/2 lb.	7 @	8
Apricots, Royal, fancy.	8 1/2 @	9
Figs, 10-lb box, 1-lb cartons.	60 @	75
Nectarines, 1/2 lb.	4 @	5
Peaches, unpeeled, fair to good.	4 1/2 @	5
Peaches, unpeeled, choice.	5 1/2 @	6
Peaches, unpeeled, fancy.	6 1/2 @	7
Peaches, unpeeled, extra fancy.	7 1/2 @	8
Peaches, peeled.	10 @	12 1/2
Pears, halves, fancy.	9 @	10
Pears, halves, choice.	6 1/2 @	7 1/2
Pears, halves, fair to good.	5 1/2 @	6 1/2
Plums, Black, pitted.	5 @	6
Plums, Red and Yellow.	7 @	8
Prunes, Silver, good to fancy.	5 @	7
Prunes, in bags, 4 sizes, 2 1/2 @ 3c; 40-50s, 4 1/2 @ 4 3/4c; 50-60s, 4 @ 4 1/4c; 60-70s, 3 1/2 @ 3 3/4c; 70-80s, 3 @ 3 1/4c; 80-90s, 2 1/2 @ 2 3/4c; 90-100s, 2 @ 2 1/4c; small, — @ — c.		

#### COMMON SUN-DRIED.

Apples, sliced.	3 1/2 @	3 3/4
Apples, quartered.	3 @	3 1/2
Figs, White, in bulk.	3 @	4
Figs, Black, in sacks, 1/2 lb.	3 @	4

#### Raisins.

The movement is brisk, particularly in seeded, market for latter being firm, with every prospect of ruling higher. Orders now in for the holiday trade are beyond the capacity of the seeding machines in the limited time there is to fill. The steamer Ventura, sailing on 8th inst. for Australia, carried 265,000 pounds raisins.

#### Citrus Fruits.

Valencia Oranges are offering in moderate quantity at quotably unchanged figures, with the demand slow. Inquiry for Lemons was more active, mainly on local account, but stocks were liberal and prices were unimproved. Limes have been selling at rather low figures, with supplies of fair volume.

Oranges, Valencia, 1/2 box.	\$1 25 @	2 50
Lemons, California, select, 1/2 box.	2 25 @	2 50
Lemons, California, good to choice, 1/2 box.	1 50 @	2 00
Lemons, California, fair to good, 1/2 box.	1 00 @	1 50
Grape Fruit, 1/2 box.	1 50 @	2 50
Limes, Mexican, 1/2 box.	4 00 @	4 50

#### Nuts.

The Almond market is showing healthy tone, current values being well maintained, the demand being fair and offerings not excessive. Walnuts are being delivered on previously booked orders; there are few now obtainable from first hands, and prospects are favorable for an early clean-up of supplies in the hands of jobbers at full prevailing values. Stocks of peanuts are only moderate and prices steady.

California Almonds, shelled.	15 @	18
California Almonds, paper shell.	10 @	12
California Almonds, soft shell.	7 @	8
California Almonds, hard shell.	5 @	6
California Walnuts, soft shell.	13 @	14
California Walnuts, standard.	11 1/2 @	12 1/2
Chestnuts, California-Italian.	15 @	17 1/2
Peanuts, fair to prime.	4 1/2 @	5 1/2
Peanuts, Eastern, hand-picked.	5 1/2 @	6 1/2

#### Wine.

The wholesale market for dry wines is quiet, with little offering at present from first hands. Values remain nominally at 15@18c, per gallon for dry wines of last season's vintage. On this year's wines no prices have yet been announced. Grapes in the dry wine districts are selling mainly within range of \$14@18 per ton, as to quality and section. The Wholesale Dealers' Association has found it necessary in many instances to pay higher figures than it first named, owing to competition from independent buyers. Receipts of wine at this center last week were 309,700 gallons, and for preceding week 252,900 gallons. The steamer City of Para, sailing on the 10th inst., carried 79,433 gallons and 49 cases, the bulk of the shipment being for New York.

#### School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying  
113 FULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

For All Year. : A. VAN DER HAYLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

#### Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.	127,959	1,759,667
Wheat, cts.	150,187	701,044
Barley, cts.	182,689	2,408,272
Oats, cts.	28,412	437,634
Corn, cts.	3,635	45,667
Rye, cts.	1,645	21,988
Beans, sks.	47,445	151,388
Potatoes, sks.	29,378	347,260
Onions, sks.	3,325	57,621
Hay, tons.	3,816	74,742
Wool, bales.	2,765	19,617
Hops, bales.	2,378	12,556

#### EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sk.	88,936	1,232,892
Wheat, cts.	88,248	290,191
Barley, cts.	286,863	1,886,953
Oats, cts.	93	8,369
Corn, cts.	338	5,219
Beans, sks.	3,813	10,956
Hay, bales.	1,071	50,172
Wool, lbs.	1,358,159	382,555
Hops, lbs.	71,224	215,747
Honey, cases.	594	898
Potatoes, pkgs.	1,025	23,648

## HEALD'S

### BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 600 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

Telephone Main 199.

Blake, Moffitt & Towne,

### DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

## MALTHOID ROOFING



Never corrodes, never sweats nor expands; in fact never gives any trouble of any kind and is used for all classes of work. A very superior covering for barns, factories, depots, canneries, tanneries, sheds and mining property.

Send for booklet.

### The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



**75%**

That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. THIS MACHINE AND ALL

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful

**Direct Blast Blower Elevator.**

SEND FOR "A Book on Silage"

BY PROF. F. W. WOLL

**AN ACRE OF CORN** and its possibilities.

Gen'l Agts.  
**HOOKER & CO.**  
16-18 Drumm St.  
SAN FRANCISCO

Price, 10c in stamps

# California Fruits.

NEW EDITION (3rd).

LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

#### CONTENTS.

##### Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

##### Chapter.

- XXI. The Pear.
- XXII. Plum and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

# CALIFORNIA VEGETABLES

## GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.





**Sharples**  
**Tubular Separators**  
differ widely from the complicated "bucket bowl" types. Its bowl has no complications; all others have. It has a waist high milk vat; all others are head high. It has bottom feed, simple, accessible gearing, stands on its own bottom. No other does. Skims clean, turns easy. Ask any user. Free Catalogue No. 131. P. M. Sharples, West Chester, Pa. The Sharples Co., Chicago, Ills.

## FRUIT MARKETING.

### Prunes in Europe.

Furnished by the State Commissioner of Horticulture for publication in the PACIFIC RURAL PRESS.

The report of United States Consul Frank Dyerehester at Budapest, Hungary, under date of August 24th, contains the following:

Dr. Aladar Navay, Royal Hungarian Agricultural Commissioner in Paris, France, reports to his government that the spring frosts nearly ruined this year's fruit crop in France; that there are few apricots, peaches and plums left over from 1902, hence prices are high. The same is true, to almost the same extent, of pears and apples. Dr. Navay recommends to Hungarian fruit exporters to consign to the "Union Agricole de France," at 30 Rue des Halles, Paris, if they have first-class fruit to dispose of, following the instructions of said union as to packing.

The second report by Mr. Dyerches-ter, dated August 31st, says:

It is reported from Nagybanja in northeastern Hungary that Berlin merchants, hearing that there was a full crop of prunes, came down to that vicinity, and by their action raised the price of that fruit from 4 to 10 crowns (81 cents to \$2.02). Several thousand meter-centners (1 m. c. equals 220.46 pounds) were shipped last week to Berlin. At other points in the vicinity, however, Galician agents came suddenly upon the growers, paying them only 4 or 5 crowns (81 cents to \$1.03). For this reason the north Hungarian growers are making complaint to the agricultural authorities on account of their not having been advised in time of the rise in price, especially because the crop in southern Hungary is very poor this year.

Hungary's chief export this year will be apples and pears. Two forwarding firms in Vienna and one in Budapest have arranged specially fast fruit trains, owing to the favorable prospect this year. It is hoped to export not only to Germany, but also to England and Russia. The trade in June and July was unusually brisk, to the amount of 2,433,097 crowns (say \$486,619.40), as much as the whole season's trade last year.

Hugh Peterson, United States Consul General at Hamburg, says the prune market is firm, and a large advance is expected. The crop in 1902 in Bosnia amounted to 2500 cars, and in Servia to 3800 cars. This year's crop is estimated at one-third of last year's. The crop runs to small sizes. The present price for Bosnian and Servian prunes is as follows for 220.4 pounds:

Sizes 120 to 130, \$5.89; sizes 110 to 120, \$6.42; sizes 80 to 85, \$8.33; sizes 90 to 100, \$7.14; sizes 70 to 75, \$9.75. This is for bags f. o. b. Budapest, freight, marks 4.44 (\$1.057), and marks 4 (.952) for duty, to make Hamburg price.

The prices for French prunes, f. o. b., Bordeaux, are now as follows per 110.2 pounds:

Sizes 50 to 60, \$15.44; sizes 60 to 70, \$13.51; sizes 70 to 80, \$11.19; sizes 80 to 90, \$9.26; sizes 90 to 100, \$8.27; sizes 100 to 105, \$7.33.

The market is firm and is expected to advance.

## Investigation of the Eastern Fruit Trade.

At the meeting of the State Board of Trade last week there was discussion of means by which the interest of California fruit shippers may be protected in the East against the reprehensible practices of agents and auctioneers. Numerous instances were cited how the California shipper becomes the victim of the scheming agent of the East, who connives with the auctioneer to fleece the absent shipper. It was decided to try the experiment of sending a representative Californian East to make a thorough investigation, and then adopt a plan that will eradicate the evil. The following resolution was submitted by W. H. Mills and adopted:

"Resolved, That the manager of this board be instructed to report to the board the practicability of instituting a general inquiry into the fruit market, foreign and domestic, with reference to an ascertainment of all the facts relating to such market, and especially with reference to the relation between the amount returned from the reported sales of fruit and the actual amount obtained for such sales; and, further, to the end that the price paid to the fruit grower of this State shall more nearly correspond to the price at which the fruit product of California reaches the consumer; and that the manager is requested to report to the board at the next meeting the practicability and cost of such inquiry."

## THE FIELD.

### Dodder on Alfalfa.

Mr. John Dale, a teacher in the Tular High School, writes the following interesting paragraph on the alfalfa parasite known as dodder, and on irrigation practice as followed in his district:

To the casual observer dodder has the appearance of a fungus growth, but if one examines it closely it seems to be a vine growing from very small roots, which take most of their substance from the air. [In addition it should be said that the dodder takes its nutriment directly from the stem of the alfalfa by means of the root-like appendages which it sends into the tissue of its host. It is a true parasite during the latter part of its life, though it starts from a seed in the soil.—Ed.] It comes from seed from the small, white blossom found on the vine at certain seasons of the plant's growth.

Dodder grows in alfalfa fields of any age. It will also grow on weeds or grass. It seems to require something to run over so that the air may pass under it, yet I have seen it growing on short grass.

It is somewhat destructive to the crop of hay in that it takes the nutriment from the soil and so shortens the growth of alfalfa. It also gives the hay the qualities of wood rather than grass.

The best way we have found to exterminate dodder is to pasture the ground very closely during the hot weather and let the ground become comparatively dry. The seeds of dodder are carried

Who is  
**MACBETH?**  
The maker who  
isn't afraid of his  
lamp-chimneys.

The Index tells you, in ten minutes, all you need to know for comfort with lamps and the saving of chimney-money; sent free; do you want it?

MACBETH, Pittsburgh.

from field to field by irrigation late in the season.

One must study the soil very carefully and also the effect of irrigation on the soil to tell how often to irrigate the ground. In this county, where the hardpan is far below the surface and the soil is sandy, we do not attempt to irrigate more than three or four times a year, but were we well supplied with water we should irrigate later in the season, but never later than the middle of July. On the black soils and clays we irrigate oftener, but not later on in the season. The best growth of alfalfa is that which comes from a root running deep into the soil.

## U. S. SEPARATORS MAKE MORE MONEY

BY  
**SKIMMING  
CLEANER**



## SAVE MORE MONEY

By wearing longer with less expense, as their users all over the Country are daily proving, therefore are the

## MOST PROFITABLE TO BUY

We have the following transfer points: Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Montreal, Quebec, Sherbrooke, P. Q., Hamilton, Ont. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co.,  
Bellows Falls, Vt.

## AUTOMOBILES

AT YOUR OWN PRICE.

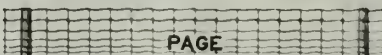
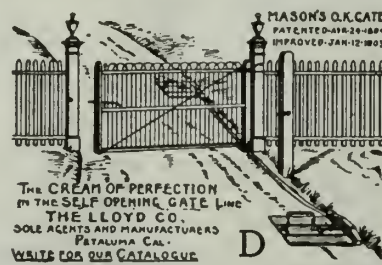
We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL!  
INVESTIGATE!

## MOTOR VEHICLE CO.

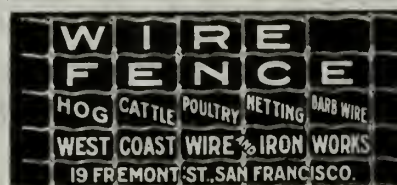
A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.



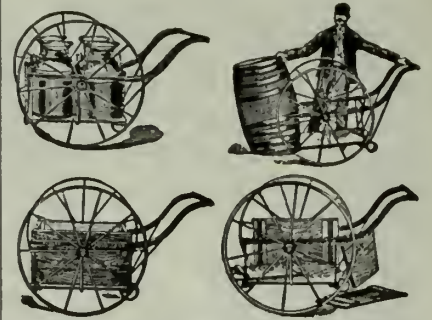
## WASN'T IT LUCKY THAT

the runaway auto at Zanesville, O., fair, ran into Page Fence? It had already counted over a score of killed or injured before it struck the fence. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.



## No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x20x15.

Handles barrels or four large milk cans. Steel frame and steel wheels.

HOOKER & CO.

16 & 18 DRUMM ST., SAN FRANCISCO, CAL.



## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

## DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

PATENT AGENTS,

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.



## The Rialto Canner

Makes home canning a luxury. Gives every farmer and fruit grower a cheap and reliable canning factory of any capacity. Simple and efficient. Thousands in use, all giving satisfaction. Write for circular.

RIALTO CANNER CO., STOCKTON, CAL.



# THE APIARY.

## Central California Bee Keepers.

A meeting of the Central California National Honey Producers' Association was held at Hanford last week. The Journal says: After the organization had been perfected, by-laws were adopted and other business transacted. The president, secretary and treasurer have each been placed under \$5000 bonds.

The board of directors was increased from five to seven members, who are as follows: F. E. Brown of Hanford, president; H. L. Weems of Wasco, secretary; J. F. Crowder of Selma, R. Hyde of Visalia, J. H. Flory of Dos Palos, R. L. Epperson of Fresno. It was decided that the entire control of the output be placed in the hands of the directors, and in order to defray the expenses of marketing, a 5% commission on selling price of honey be charged, 1% to be retained by the general organization and the other 4% to be rebated to local organization.

Eighty-four per cent of the total organization of bees in the San Joaquin valley, exclusive of Bakersfield, are now in the Association, and it is estimated that forty carloads of honey will be produced this year.

The by-laws adopted provides that any member of the Association who sells his honey otherwise than through the organization be subject to a fine of \$200, and specifies that the board of directors be empowered to take legal action for collection of same.

Also that money will be advanced upon honey stored, where warehouse receipt is offered as security, and such honey will be held until sold, and money returned. The Association will furnish money upon such security to members at the lowest rate of interest obtainable.

The price of honey must not be changed oftener than once in two weeks.

Any member has the privilege of retaining and selling at retail any lots of honey usually sold to local trade, and furthermore it is urged that local consumption be encouraged. Honey thus sold is exempt from commission.

Hanford was chosen as the principal place of business and meetings will there be held quarterly as follows: On the first Tuesday in January, April, July and October. The meeting adjourned to meet again at Bakersfield, when the seventh director will be named.

# BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr. old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr. olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHBRED POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. Illustrated catalogue with show record, free. Agents Eclipse Aluminum Leg Bands; sample 2 cts.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## SHEEP AND GOATS.

**FOR SALE**—Two fine thoroughbred Southdown yearling rams. Won 1st and 2nd premiums State Fair 1903. Perkins & Co., 1028 J St., Sacramento.

**O. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in Poultry Supplies of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**FOR SALE.** Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock. Phone RED 123. J. W. McCORD, Hanford, Cal.

**BULLS FOR SALE.** Registered and High-Grade SHORTHORNS.

All Inoculated for Texas Fever, at CHOWCHILLA STOCK FARM. Address.... ISAAC BIRD, Merced, Cal.

**3-HORSE POWER Webster Gasoline Engine.**  
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY. SEND FOR CATALOGUE. **WOODIN & LITTLE,** 312 Market St. San Francisco, Cal.

# Largest Nursery

West of the Rocky Mountains

## CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

## RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**  
GEO. C. ROEDING, PRESIDENT AND MANAGER  
P.O. BOX 18 FRESNO, CAL.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING

or find it necessary to REPLACE A WORN-OUT ROOF.

# ELATERITE ROOFING

Takes the place of shingles, tin, iron, tar and gravel, and all prepared roofings. For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed. It will pay to ask for prices and information.

**THE ELATERITE ROOFING CO.,**  
713 Market Street, San Francisco.

CHAS. D. PIERCE, Pres.

W. FRANK PIERCE, Vice-Pres.

# RIVERSIDE HERD HOLSTEINS.

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered.

Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz butter yield in 7 days.
Romeo Aaggie Acme	431	7 yr.	26.11 oz.	Corona Clifden	410	6 yr.	16.3 oz.
Fidessa	570	4 "	25 "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d.	499	7 "	23.15 "	Mountain Juliet	382	7 "	15.14 "
Netherland Maud Moore	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	388	4 "	15.6 "
Minnewawa Louise	510	4 "	22.9 "	Lady Kurts Alpa	378	6 "	15.2 "
Nicolo De Kol	484	6 "	22.4 "	Pauline Sadie De Kol	367	3 "	15.2 "
De Natsey Baker	484	3 "	21.10 "	Eva Blanco	355	2 "	14.5 "
Ruda 2d Belle	401	7 "	20.9 "	Corona Acturas	344	2 "	14.1 "
De Kol Konigen Van Freisland	440	8 "	20.9 "	Kordyke Pietertje Queen	300	2 "	13.14 "
Minnewawa Lily	384	4 "	20.4 "	Aral a De Kol	332	2 "	13.7 "
Drosky Artis	460	6 "	20.4 "	Oleander De Kol	324	2 "	13.1 "
Griselda of Brookfield	512	6 "	20.3 "	Rijaneta Clothilde 2d	312	2 "	13.2 "
De Kol of Valley Mead	435	4 "	19.9 "	Segriss Pietertje De Kol 2d	355	2 "	12.11 "
Wynetta Princess	391	2 "	18.7 "	Western Princess	294	3 "	12.11 "
Drusa	399	5 "	18.4 "	Painted Lady	327	3 "	12.10 "
Wakalona	393	5 "	18.3 "	Mary Ann De Kol	391	3 "	12.10 "
Olympia Clay	526	6 "	18.2 "	Miranda Acturas	325	3 "	12.3 "
Victor Idlewild 2d	371	4 "	17.9 "	Rhoda De Kol Culantha	353	2 "	12.6 "
Cascade Princess	479	8 "	17.2 "	Hengerveld Lass	306	2 "	12.2 "
Western Duchess	387	7 "	16.6 "	Princess Louise De Kol	299	2 "	12 "
Aaggie Martin	416	6 "	16.12 "				
Roma Princess	366	3 "	16.8 "	Wild West De Kol	279	2 "	10.10 "

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

# PIERCE LAND AND STOCK CO.

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. 'Phone, SOUTH 103  
**STOCKTON, CAL.** 'Phone, SUBURBAN 281.

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

**MIDLAND FEED.** THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES. Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. **THE PETALUMA INCUBATOR CO.,** Pacific Coast Agents, PETALUMA, CAL.

**NATIONAL WOOD PIPE CO.**  
**WOOD PIPE.** Woodward Patent Machine Banded. Wheeler Patent Continuous Stave.

Los Angeles Office: 6th and Mateo Sts.  
San Francisco Office: 301 Market St.

A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST

# Removal Notice

—OF—  
**The CUTTER ANALYTIC LABORATORY.**

On account of extreme summer heat interfering with laboratory processes **WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.**

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is **The CUTTER ANALYTIC LABORATORY,** Station "K," San Francisco.

OUR SPECIALTY IS

**CUTTER'S BLACK LEG VACCINE.**

Write for BLACK LEG booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

# Cocoanut Oil Cake.

THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.



## GONE LAME!!



Those words strike terror to the heart of every horseman. Don't worry. If it is Spavin, Ring Bone, Splints, Curb or any form of Lameness, Kendall's Spavin Cure will cure it quickly and permanently.

Cambridge Springs, Pa., Dec. 4, 1902.  
American House Livery.

Dr. B. J. Kendall Co.  
Gentlemen:—I have been using your Kendall's Spavin Cure for fifteen years and find it a success. I have one of your old "Treatise on the Horse and his Diseases," the leaves are some of them lost. If you have any new ones please send me one, and oblige.  
Very truly yours,  
CHAS. KELLY.

Price \$1.60 for \$5. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address Dr. B. J. KENDALL CO., ENOSBURG FALLS, VT.

## THE VETERINARIAN.

### Answers to Queries.

By E. J. CREELEY, D. V. S., Dean of San Francisco Veterinary College, 510 Golden Gate Ave.

#### ACUTE INDIGESTION.

TO THE EDITOR:—I would thank you for some advice about a cow I own. She is a good type of the dairy animal—a Jersey and Durham cross. Her trouble is profuse watering at the eyes and nose, only at times, and cold horns and slightly cold along the spine, eyes somewhat dull. These symptoms appear only at times and at other times she is bright and lively as can be. When one of the bad attacks comes on (of which she has had three in less than one year) she appears dull and rather indifferent to surroundings, does not chew her cud, and she has slight bloating and appears to be in pain. She is a very free feeder at all times, except when these spells come on. The first time she had one of these spells I had a veterinarian and he pronounced it nothing but bloat and charged me \$2 for this learned opinion. But it is very evident there is something more than this the matter. I think she has what is known in the East as hollow horn (I do not know the scientific name for it). My opinion is that when these spells come on her she feels sick and does not chew her cud, and then the food she has eaten begins to ferment, forms gases and causes the bloat—in other words, the bloat is but the effect, and the trouble that caused the cold horns and spine is the cause. In your opinion, am I right and what treatment would you advise? I am compelled to keep her in confinement—stabled at night and a small lot about 20 by 40 feet in day time. She has good burr clover and oat hay mixed and a mash of two quarts of bran and middlings mixed twice a day.—CONSTANT READER, San Jose.

There is no such disease known to scientific veterinarians as hollow horn. Empirics claim there is such a disease and even bore holes in the horns. Acute indigestion predisposes to tympanites or bloat. Give one-half pound glauher tea, one-half pound epsom salts each time she shows signs of an attack, and be careful to give the best kind of food.

### Protest Against Unofficial Acts of State Veterinarian.

TO THE EDITOR:—We would ask you to kindly give space to this letter of protest against some of the acts of State Veterinarian Blemer during his recent official visit to Inyo county in connection with the outbreak of anthrax there.

You probably noticed that several weeks ago there appeared in different papers throughout the State items to the effect that the Governor had been

requested to send the State Veterinarian to Inyo county to investigate a disease supposed to be anthrax, which was causing considerable loss to stock raisers. A few days after different papers contained accounts of interviews with Dr. Blemer, the State Veterinarian, wherein it was stated that the trouble in Inyo county was anthrax. But one paper, The Inyo Register, had an article, evidently the outcome of an interview with the doctor, which differs materially from the articles appearing in papers on this side of the mountains.

In the course of this evidently inspired article on the local anthrax situation, the statement was made that there are "three large concerns" in this country manufacturing anthrax vaccine, and that of these "the only one on the coast is the United States Vaccine Co. of Fresno."

In giving this "free advertisement" (so it was called in the course of the article), we think the publisher of the Register acted in good faith on what he supposed to be disinterested and authoritative information.

A portion of a letter from him in response to an inquiry as to the source of his information for the "free advertisement" given "the large concern" at Fresno, is herewith given:

"The United States Co. being the only one of which I had heard, its advertising in the Live Stock and Dairy Journal being the only such in what I considered a representative stock paper, and the statement being confirmed from what was presumed to be disinterested sources, I accepted it as correct. I was not asked to publish it by the United States Co., or anyone else. As the well meant but evidently unfair paragraph seems to have raised something of a tempest in a small way, I hardly feel at liberty to go further into details as to the source of the information or confirmation of it."

When it is known that Dr. Blemer and F. E. Twining (the latter of whom was removed from work in our laboratory on account of careless and incompetent laboratory methods and general untrustworthiness) are interested in the Live Stock and Dairy Journal, and are the leading spirits, if not the sole members of "The United States Vaccine Co.," it is not hard to trace the connection, even if the publisher of the Register does refrain from giving names.

Investigation of what this zealous State official really did say and do in Inyo county discloses the facts that he did make the statement that the Register article implied he did; that he carefully concealed his identity with the "large concern" and The Live Stock and Dairy Journal, even to the extent of pretending not to know where the latter was published—some of those who were present at a meeting which the doctor was announced to address, said that "the address" consisted of reading from The Live Stock and Dairy Journal an article on anthrax. One of his auditors asked where the Journal was published, the doctor hesitated prettily, said that he thought it was published in San Francisco, but, turning to the title page, discovered (to his surprise) (?) that it was published in Fresno!

However, it is a matter of little moment to us whether the doctor read, spoke or whistled his address; our concern is with the misrepresentations and petty tactics he made use of to boost the sale of products in which he is interested and hinder the sale of ours.

We have larger and better equipment and facilities than has the "large concern" at Fresno, our laboratory is located in Berkeley where laboratory processes can be carried on under far better climatic conditions than exist at Fresno (from which place we removed for this reason) and, what is infinitely more to be desired, we have capable and conscientious laboratory workers. Our anthrax vaccine has been used this summer in large quantities in different parts of the State, and in

every instance successfully, and it has all been of our own manufacture—we have drawn no supplies from Eastern sources, as has this "large concern" whose products were given free advertisement on account of their "superior freshness."

Summarizing, we would say that we have not taken snap judgment in this Inyo affair. Careful investigation has been made, as is evidenced by the time that has elapsed since the appearance of the article in The Inyo Register. All the points made have been clearly established, and we, therefore, as manufacturers of vaccine, and taxpayers in the State of California, protest against the acts of a State official whose misrepresentations tend to injure our business.

We make this protest thus publicly to put on their guard others who might be deceived as was the publisher of The Inyo Register.

The CUTTER ANALYTIC LABORATORY.  
By A. E. Cutter.  
San Francisco, October 10, 1903.



Thoroughbred Scotch Collies  
TOKAYANO KENNELS  
Colfax, Placer Co., Calif.

### FOR SALE.

100,000 Mission Rooted Grape Cuttings,  
30,000 Thompson Seedless Rooted Grape Cuttings,  
3,300 Assorted Peach Trees.

All Healthy and in Excellent Condition.  
For particulars, address E. R. DUBRUZ, Public Administrator, Tulare Co., Cal.

#### ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK, Rocky Ford, Colo.

## GLENN RANCH, Glenn County, - - California. FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips. The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California

## Ponder Well This Proposition.

I offer for sale 42 acres fruit land in the Santa Cruz mountains, 5 miles from Los Gatos; 3000 trees, full bearing. This is a delightful summer resort, good roads and plenty of water and will accommodate 35 guests, and one-half of the applicants have to be turned away. A sturdy young couple can easily clear \$6000.00 a year.

Send for a circular giving full description of this valuable and charming place. The price has been reduced to \$12,000.00. Easy terms.

JOHN F. BYXBEE, Palo Alto, Santa Clara Co., Cal.

FOR SALE.—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUBIG, Administrator, Napa, Cal.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

KING OF DAIRY FOODS. One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 1,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the mouth.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE  
KEARNEY PARK, FRESNO, CALIFORNIA



## Eames Tricycle Co.,

Patentees and Manufacturers of Improved designs of Tricycles, Tricycle Chairs for Invalids, and various models of rolling chairs.

Chairs sold, rented and exchanged.

Illustrated Catalogue mailed on application.

EAMES TRICYCLE CO.,  
2020 Market St. San Francisco.  
534 S. Broadway, Los Angeles.

## DON'T BUY GASOLINE ENGINES

until you have investigated "The Master Workman" a two-cylinder gasoline engine, superior to all light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-5-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.

Hunters' & Trappers' Guide \$5.00, \$1.00, \$2.00, \$3.00, \$4.00, \$5.00, \$6.00, \$7.00, \$8.00, \$9.00, \$10.00, \$11.00, \$12.00, \$13.00, \$14.00, \$15.00, \$16.00, \$17.00, \$18.00, \$19.00, \$20.00, \$21.00, \$22.00, \$23.00, \$24.00, \$25.00, \$26.00, \$27.00, \$28.00, \$29.00, \$30.00, \$31.00, \$32.00, \$33.00, \$34.00, \$35.00, \$36.00, \$37.00, \$38.00, \$39.00, \$40.00, \$41.00, \$42.00, \$43.00, \$44.00, \$45.00, \$46.00, \$47.00, \$48.00, \$49.00, \$50.00, \$51.00, \$52.00, \$53.00, \$54.00, \$55.00, \$56.00, \$57.00, \$58.00, \$59.00, \$60.00, \$61.00, \$62.00, \$63.00, \$64.00, \$65.00, \$66.00, \$67.00, \$68.00, \$69.00, \$70.00, \$71.00, \$72.00, \$73.00, \$74.00, \$75.00, \$76.00, \$77.00, \$78.00, \$79.00, \$80.00, \$81.00, \$82.00, \$83.00, \$84.00, \$85.00, \$86.00, \$87.00, \$88.00, \$89.00, \$90.00, \$91.00, \$92.00, \$93.00, \$94.00, \$95.00, \$96.00, \$97.00, \$98.00, \$99.00, \$100.00, \$101.00, \$102.00, \$103.00, \$104.00, \$105.00, \$106.00, \$107.00, \$108.00, \$109.00, \$110.00, \$111.00, \$112.00, \$113.00, \$114.00, \$115.00, \$116.00, \$117.00, \$118.00, \$119.00, \$120.00, \$121.00, \$122.00, \$123.00, \$124.00, \$125.00, \$126.00, \$127.00, \$128.00, \$129.00, \$130.00, \$131.00, \$132.00, \$133.00, \$134.00, \$135.00, \$136.00, \$137.00, \$138.00, \$139.00, \$140.00, \$141.00, \$142.00, \$143.00, \$144.00, \$145.00, \$146.00, \$147.00, \$148.00, \$149.00, \$150.00, \$151.00, \$152.00, \$153.00, \$154.00, \$155.00, \$156.00, \$157.00, \$158.00, \$159.00, \$160.00, \$161.00, \$162.00, \$163.00, \$164.00, \$165.00, \$166.00, \$167.00, \$168.00, \$169.00, \$170.00, \$171.00, \$172.00, \$173.00, \$174.00, \$175.00, \$176.00, \$177.00, \$178.00, \$179.00, \$180.00, \$181.00, \$182.00, \$183.00, \$184.00, \$185.00, \$186.00, \$187.00, \$188.00, \$189.00, \$190.00, \$191.00, \$192.00, \$193.00, \$194.00, \$195.00, \$196.00, \$197.00, \$198.00, \$199.00, \$200.00, \$201.00, \$202.00, \$203.00, \$204.00, \$205.00, \$206.00, \$207.00, \$208.00, \$209.00, \$210.00, \$211.00, \$212.00, \$213.00, \$214.00, \$215.00, \$216.00, \$217.00, \$218.00, \$219.00, \$220.00, \$221.00, \$222.00, \$223.00, \$224.00, \$225.00, \$226.00, \$227.00, \$228.00, \$229.00, \$230.00, \$231.00, \$232.00, \$233.00, \$234.00, \$235.00, \$236.00, \$237.00, \$238.00, \$239.00, \$240.00, \$241.00, \$242.00, \$243.00, \$244.00, \$245.00, \$246.00, \$247.00, \$248.00, \$249.00, \$250.00, \$251.00, \$252.00, \$253.00, \$254.00, \$255.00, \$256.00, \$257.00, \$258.00, \$259.00, \$260.00, \$261.00, \$262.00, \$263.00, \$264.00, \$265.00, \$266.00, \$267.00, \$268.00, \$269.00, \$270.00, \$271.00, \$272.00, \$273.00, \$274.00, \$275.00, \$276.00, \$277.00, \$278.00, \$279.00, \$280.00, \$281.00, \$282.00, \$283.00, \$284.00, \$285.00, \$286.00, \$287.00, \$288.00, \$289.00, \$290.00, \$291.00, \$292.00, \$293.00, \$294.00, \$295.00, \$296.00, \$297.00, \$298.00, \$299.00, \$300.00, \$301.00, \$302.00, \$303.00, \$304.00, \$305.00, \$306.00, \$307.00, \$308.00, \$309.00, \$310.00, \$311.00, \$312.00, \$313.00, \$314.00, \$315.00, \$316.00, \$317.00, \$318.00, \$319.00, \$320.00, \$321.00, \$322.00, \$323.00, \$324.00, \$325.00, \$326.00, \$327.00, \$328.00, \$329.00, \$330.00, \$331.00, \$332.00, \$333.00, \$334.00, \$335.00, \$336.00, \$337.00, \$338.00, \$339.00, \$340.00, \$341.00, \$342.00, \$343.00, \$344.00, \$345.00, \$346.00, \$347.00, \$348.00, \$349.00, \$350.00, \$351.00, \$352.00, \$353.00, \$354.00, \$355.00, \$356.00, \$357.00, \$358.00, \$359.00, \$360.00, \$361.00, \$362.00, \$363.00, \$364.00, \$365.00, \$366.00, \$367.00, \$368.00, \$369.00, \$370.00, \$371.00, \$372.00, \$373.00, \$374.00, \$375.00, \$376.00, \$377.00, \$378.00, \$379.00, \$380.00, \$381.00, \$382.00, \$383.00, \$384.00, \$385.00, \$386.00, \$387.00, \$388.00, \$389.00, \$390.00, \$391.00, \$392.00, \$393.00, \$394.00, \$395.00, \$396.00, \$397.00, \$398.00, \$399.00, \$400.00, \$401.00, \$402.00, \$403.00, \$404.00, \$405.00, \$406.00, \$407.00, \$408.00, \$409.00, \$410.00, \$411.00, \$412.00, \$413.00, \$414.00, \$415.00, \$416.00, \$417.00, \$418.00, \$419.00, \$420.00, \$421.00, \$422.00, \$423.00, \$424.00, \$425.00, \$426.00, \$427.00, \$428.00, \$429.00, \$430.00, \$431.00, \$432.00, \$433.00, \$434.00, \$435.00, \$436.00, \$437.00, \$438.00, \$439.00, \$440.00, \$441.00, \$442.00, \$443.00, \$444.00, \$445.00, \$446.00, \$447.00, \$448.00, \$449.00, \$450.00, \$451.00, \$452.00, \$453.00, \$454.00, \$455.00, \$456.00, \$457.00, \$458.00, \$459.00, \$460.00, \$461.00, \$462.00, \$463.00, \$464.00, \$465.00, \$466.00, \$467.00, \$468.00, \$469.00, \$470.00, \$471.00, \$472.00, \$473.00, \$474.00, \$475.00, \$476.00, \$477.00, \$478.00, \$479.00, \$480.00, \$481.00, \$482.00, \$483.00, \$484.00, \$485.00, \$486.00, \$487.00, \$488.00, \$489.00, \$490.00, \$491.00, \$492.00, \$493.00, \$494.00, \$495.00, \$496.00, \$497.00, \$498.00, \$499.00, \$500.00, \$501.00, \$502.00, \$503.00, \$504.00, \$505.00, \$506.00, \$507.00, \$508.00, \$509.00, \$510.00, \$511.00, \$512.00, \$513.00, \$514.00, \$515.00, \$516.00, \$517.00, \$518.00, \$519.00, \$520.00, \$521.00, \$522.00, \$523.00, \$524.00, \$525.00, \$526.00, \$527.00, \$528.00, \$529.00, \$530.00, \$531.00, \$532.00, \$533.00, \$534.00, \$535.00, \$536.00, \$537.00, \$538.00, \$539.00, \$540.00, \$541.00, \$542.00, \$543.00, \$544.00, \$545.00, \$546.00, \$547.00, \$548.00, \$549.00, \$550.00, \$551.00, \$552.00, \$553.00, \$554.00, \$555.00, \$556.00, \$557.00, \$558.00, \$559.00, \$560.00, \$561.00, \$562.00, \$563.00, \$564.00, \$565.00, \$566.00, \$567.00, \$568.00, \$569.00, \$570.00, \$571.00, \$572.00, \$573.00, \$574.00, \$575.00, \$576.00, \$577.00, \$578.00, \$579.00, \$580.00, \$581.00, \$582.00, \$583.00, \$584.00, \$585.00, \$586.00, \$587.00, \$588.00, \$589.00, \$590.00, \$591.00, \$592.00, \$593.00, \$594.00, \$595.00, \$596.00, \$597.00, \$598.00, \$599.00, \$600.00, \$601.00, \$602.00, \$603.00, \$604.00, \$605.00, \$606.00, \$607.00, \$608.00, \$609.00, \$610.00, \$611.00, \$612.00, \$613.00, \$614.00, \$615.00, \$616.00, \$617.00, \$618.00, \$619.00, \$620.00, \$621.00, \$622.00, \$623.00, \$624.00, \$625.00, \$626.00, \$627.00, \$628.00, \$629.00, \$630.00, \$631.00, \$632.00, \$633.00, \$634.00, \$635.00, \$636.00, \$637.00, \$638.00, \$639.00, \$640.00, \$641.00, \$642.00, \$643.00, \$644.00, \$645.00, \$646.00, \$647.00, \$648.00, \$649.00, \$650.00, \$651.00, \$652.00, \$653.00, \$654.00, \$655.00, \$656.00, \$657.00, \$658.00, \$659.00, \$660.00, \$661.00, \$662.00, \$663.00, \$664.00, \$665.00, \$666.00, \$667.00, \$668.00, \$669.00, \$670.00, \$671.00, \$672.00, \$673.00, \$674.00, \$675.00, \$676.00, \$677.00, \$678.00, \$679.00, \$680.00, \$681.00, \$682.00, \$683.00, \$684.00, \$685.00, \$686.00, \$687.00, \$688.00, \$689.00, \$690.00, \$691.00, \$692.00, \$693.00, \$694.00, \$695.00, \$696.00, \$697.00, \$698.00, \$699.00, \$700.00, \$701.00, \$702.00, \$703.00, \$704.00, \$705.00, \$706.00, \$707.00, \$708.00, \$709.00, \$710.00, \$711.00, \$712.00, \$713.00, \$714.00, \$715.00, \$716.00, \$717.00, \$718.00, \$719.00, \$720.00, \$721.00, \$722.00, \$723.00, \$724.00, \$725.00, \$726.00, \$727.00, \$728.00, \$729.00, \$730.00, \$731.00, \$732.00, \$733.00, \$734.00, \$735.00, \$736.00, \$737.00, \$738.00, \$739.00, \$740.00, \$741.00, \$742.00, \$743.00, \$744.00, \$745.00, \$746.00, \$747.00, \$748.00, \$749.00, \$750.00, \$751.00, \$752.00, \$753.00, \$754.00, \$755.00, \$756.00, \$757.00, \$758.00, \$759.00, \$760.00, \$761.00, \$762.00, \$763.00, \$764.00, \$765.00, \$766.00, \$767.00, \$768.00, \$769.00, \$770.00, \$771.00, \$772.00, \$773.00, \$774.00, \$775.00, \$776.00, \$777.00, \$778.00, \$779.00, \$780.00, \$781.00, \$782.00, \$783.00, \$784.00, \$785.00, \$786.00, \$787.00, \$788.00, \$789.00, \$790.00, \$791.00, \$792.00, \$793.00, \$794.00, \$795.00, \$796.00, \$797.00, \$798.00, \$799.00, \$800.00, \$801.00, \$802.00, \$803.00, \$804.00, \$805.00, \$806.00, \$807.00, \$808.00, \$809.00, \$810.00, \$811.00, \$812.00, \$813.00, \$814.00, \$815.00, \$816.00, \$817.00, \$818.00, \$819.00, \$820.00, \$821.00, \$822.00, \$823.00, \$824.00, \$825.00, \$826.00, \$827.00, \$828.00, \$829.00, \$830.00, \$831.00, \$832.00, \$833.00, \$834.00, \$835.00, \$836.00, \$837.00, \$838.00, \$839.00, \$840.00, \$841.00, \$842.00, \$843.00, \$844.00, \$845.00, \$846.00, \$847.00, \$848.00, \$849.00, \$850.00, \$851.00, \$852.00, \$853.00, \$854.00, \$855.00, \$856.00, \$857.00, \$858.00, \$859.00, \$860.00, \$861.00, \$862.00, \$863.00, \$864.00, \$865.00, \$866.00, \$867.00, \$868.00, \$869.00, \$870.00, \$871.00, \$872.00, \$873.00, \$874.00, \$875.00, \$876.00, \$877.00, \$878.00, \$879.00, \$880.00, \$881.00, \$882.00, \$883.00, \$884.00, \$885.00, \$886.00, \$887.00, \$888.00, \$889.00, \$890.00, \$891.00, \$892.00, \$893.00, \$894.00, \$895.00, \$896.



## Patrons of Husbandry.

### Tulare Grange.

Written for the PACIFIC RURAL PRESS.

Tulare Grange convened at its hall on October 3rd. The committee previously appointed to interview the supervisors reported they had met the supervisors, and advocated, before them, the offering of a bounty on squirrels; that the supervisors favored offering a bounty of 2 cents each, but had appointed a day this coming week to hear the expression of the taxpayers' views on the subject.

A communication from D. T. Fowler was read, saying he could set the 3rd and 4th or 4th and 5th of December for a farmers' institute at Tulare. The Worthy Master was requested to see Bro. Fowler at the State Grange, and see if he could not set the 11th and 12th of December for an institute.

As the next Grange meeting day is the 17th, and as that day has been set apart to celebrate the payment of all bonded indebtedness of Tulare irrigation district, the Grange resolved to postpone its regular meeting until the 25th, and appointed a committee, consisting of Sister Ellsworth and Bros. Cartmill and Hobbs, to aid, on part of Tulare Grange, in making the celebration a marked success.

The subject of the day was taken up, "What influence has home life upon the young in formation of character?" This subject came near parents' hearts. It was discussed very thoroughly, and conceded that home life has a very marked influence on the young for good, characterizing them all through their lives, distinguishing them to a very marked degree from those who in their early lives lacked such home influence.

An invitation was sent to Selma Grange to meet with us on December 5th and celebrate the Grange anniversary birthday.

No questions were drawn from the question box.

The subject for consideration at the next meeting is, "The farmer is a greater benefactor to the community than the manufacturer."

A committee, consisting of Sister Ellsworth and Bros. Cartmill and T. Jacob, was appointed to draw up a memorandum of subjects Tulare Grange desires to have the State Grange consider. The committee reported the following, each item being considered separately until every one present fully understood the effect of it, and all were unanimously approved by the Grange.

To the Worthy Master, officers and members of the State Grange, Patrons of Husbandry, California:

Tulare Grange, No. 198, P. of H., California, herein presents for your careful consideration and approval the following subjects:

1. The prosperity of California depends upon the prosperity of its agricultural industries, and the prosperity of these agricultural industries depends upon an equitable distribution of the waters of the State for irrigation purposes. This equitable distribution of water for irrigable purposes can only be accomplished by the State assuming the control of all its waters, and by making proper provision for their equitable distribution.

2. The present system of taxation for a State revenue is inequitable; is an object lesson this year that all property, real and personal, cannot be taxed at its full cash value, nor can all personal property be ascertained. We believe the Constitution of California should be amended so as to provide a better method for raising a revenue for State purposes, and for abolishing all taxation of real and personal property for a State revenue.

3. Good roads are essential to the prosperity of every rural community. These should be constructed only on approved road engineering plans; vehicles and implements notoriously destructive of roads should be prohibited from their use. The national and State governments should aid in their construction. Costs of sprinkling and oil-

ing rural roads should be paid from the county general fund.

4. The public lands of the United States are the heritage of the people thereof. Land suitable for grazing purposes should, with proper safeguards, be rented for that purpose, at a rental regulated according to their grazing value. Free range is destructive of the range.

5. The elements of agriculture should be taught in our rural public schools. More technical schools, properly distributed, can be established with great advantage to the youth of the State. No more Normal schools, as now conducted for the preparation of teachers, are needed.

6. Communities, as well as individuals, are at times possessed of a craze to go in debt to an extent that is frequently disastrous to them. We believe safety requires that no community should be allowed to incur a bonded indebtedness in excess of 10% of its assessed property value, and then only on a petition of a majority of its taxpayers, representing two-thirds of its assessed taxable value.—Mrs. Ellen Ellsworth, W. B. Cartmill, Thos. Jacob, Committee.

Tulare, October 5. J. T.

### Growth of the Grange in California.

From the annual address of W. M. C. W. EMERY at the meeting of the State Grange last week in San Jose.

The order is in a healthy condition, in fact, better than for some time past, there being a net gain in membership of 356 during the last year.

During the year five new Granges have been formed. These Granges are as follows: Rowena, No. 330, Zachary, Colusa county; Sunnyvale, No. 331, Sunnyvale; Mount View, No. 332, Mount View, and Orchard City, No. 333, Campbell, Santa Clara county; and Eschol, No. 334, St. Helena, Napa county.

Of these Orchard City has the proud distinction of entering the Grange family with the largest charter list of any Grange ever formed in this State.

Seven of our Granges own their halls, and others are contemplating building in the near future. This gives a feeling of stability to the Grange. The hall makes a Grange home, a place to adorn and beautify, a place to take pride in, and it often affords a considerable revenue.

The prizes offered by the executive committee early in the season for increasing membership have been awarded to Lincoln Grange of Cupertino and Sebastopol Grange.

I believe the formation of the Pomona Grange should immediately follow the organization of the required number of subordinate Granges in any locality. I am fully satisfied that this is the best way to secure permanency for the order. No subordinate Grange, however strong, can secure the best results without the help of others, and every one should be a help to every other. The Pomona furnishes the best medium through which to do this.

To secure the best results we should carefully observe our obligations, obey our laws and regulations, hold meetings regularly, not less than once a month, celebrate our holidays and anniversaries as they occur, and always be ready to "lend a hand." I recommend that this Grange fix the dates of our various holidays, and concur in those already fixed by the National Grange, that we may have uniformity in our celebrations with our brothers and sisters all over the country.

We should endeavor to make our order strong and influential in this State. No doubt there are hundreds ready to join the Grange who are only waiting to be asked and to have its merits explained to them.

We should aim especially to enlist the young people in the work of the order by making our meetings interesting with social features and attractive programmes, and we should never forget that all stand on an equality in the Grange, and are equally responsible for its success or failure.

The range of subjects for discussion in a subordinate Grange is practically unlimited, but I should say choose those in which your Grange and community is especially interested, and try to crys-

tallize the thoughts suggested into some sort of action. Do not be discouraged if your first attempt is a failure. You will have gained strength for the next effort that may be more successful.

We ought to keep constantly in mind that the prime object of our order is education in its broadest and best sense. We have not yet learned all that pertains to our business. Nature, with whom we work, is constantly turning the pages of her great book and showing us new things; new problems to be solved; new obstacles to be overcome; new remedies to apply. We cannot grow two crops of the same variety of fruit under the same conditions and with the same results.

Over and over again we should urge upon our members and brother farmers the necessity of co-operation. But co-operation, in order to be productive of the best results, must be intelligent, and within the means of those contemplating it. There is that co-operate yet tendeth to disappointment. Enterprises of great promise are being launched by skillful promoters every day. One duty of the Grange, and a very important one it seems to me, is to tell farmers what to keep out of. I would again urge the extension of the county mutual fire insurance and the Rochdale system, believing the latter will some day help in the more economical marketing of our products, and knowing that the former will save us money every year. I believe it is necessary to have local or State associations for the protection of different agricultural interests, and it is the duty of every Patron of Husbandry to give his active support to such association in his line of production. Unorganized and alone the producer is at the mercy of the speculator. But when acting in conjunction with other producers he is able to assert and maintain his rights.

**TAXATION.**—Chairman Tuohy of Tulare reported for the committee on taxation. It was a carefully prepared and comprehensive report, and upon motion of John S. Dore of Fresno it was reported to a committee of five, to be appointed by the Worthy Master, including Chairman Tuohy of the present committee and Past Master William Johnston of Sacramento, which committee will be instructed to formulate a new scheme of State taxation, to be presented to the next State Grange, along the line of the Wisconsin law, which State raises its State tax from the incomes of corporations. The recommendation of Governor Pardee in his annual message to the last Legislature in reference to applying the Wisconsin taxation law in this State was endorsed.

**NEW BUILDING FOR AGRICULTURE.**—

The following was unanimously adopted:

"WHEREAS, Agriculture in all its departments is assuming an ever-growing importance in developing the wealth of the State; and

"Whereas, Scientific investigation of the problems of the farm is being steadily developed by the agricultural department of the University of California along all lines, and the number of students of agriculture increasing rapidly; and

"Whereas, The agricultural building of the University of California is even now inadequate to meet the demands for offices, laboratories and other instruction rooms, and in size and appointment fails to fittingly represent the State and the greatest of her material industries; therefore be it

"Resolved, That we, the State Grange of Patrons of Husbandry of California, assembled in annual convention at San Jose, do hereby respectfully petition and earnestly urge the Board of Regents of the University of California to plan for the erection of an agricultural building, adequate to meet the rapidly growing demands for a proficently appointed building, one fitted to represent the agriculturists of the State."

**OTHER RESOLUTIONS.**—Strong resolutions were adopted in favor of a national law to protect the legitimate home industry from imposition and fraud; favoring equal suffrage; favoring the parcel post provision by the Government.

**OFFICERS CHOSEN.**—The following were the officers elected for the next two years: Master, H. C. Raap of Martinez; Overseer, M. V. Griffith of Geyerville; Lecturer, H. F. Tuck of Cupertino; Steward, E. C. Shoemaker of Visalia; Assistant Steward, N. H. Root of Stockton; Chaplain, Mrs. C. F. Emery of Oakland; Treasurer, Daniel Flint of Sacramento; Secretary, Mrs. L. S. Woodhams—Brasch of San Francisco; Gatekeeper, S. S. Gladney of Roseville; Ceres, Mrs. C. R. Williams of San Jose; Pomona, Mrs. F. E. Mitchell of Campbell; Flora, Miss Nellie A. Borrette of Napa; Lady Assistant Steward, Miss Emily M. Burnham of Progressive Grange; Executive Committee—Long term, H. F. Blohm of Watsonville; short term, G. M. Whittiker of Bennett Valley.

### CHEAP RATES California, Washington, Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

### Wanted to Rent, Subject to Purchase,

50-100 acres ranch, suitable for chicken and stock raising. Give full particulars to  
BOX 76, OAKLAND, CAL.

### HAVE YOU SEEN THE Jack of All Trades

#### —A GASOLINE ENGINE

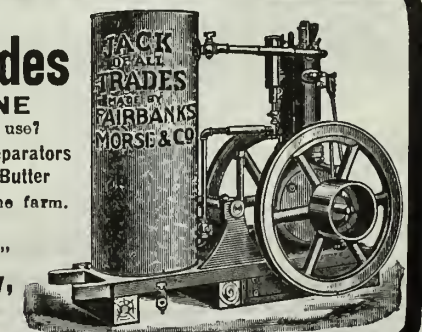
of the most modern type for farm use?  
Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."

**Fairbanks, Morse & Company,**

San Francisco, Los Angeles,  
Portland, Or.



### "EMPIRE KING"

#### SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. **Specially Adapted to Distillate Emulsion.** We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO., Lockport, N. Y.**

**California Spray Pump Co., Sole Agts. for California.**  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.



(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be *removed instantly* without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

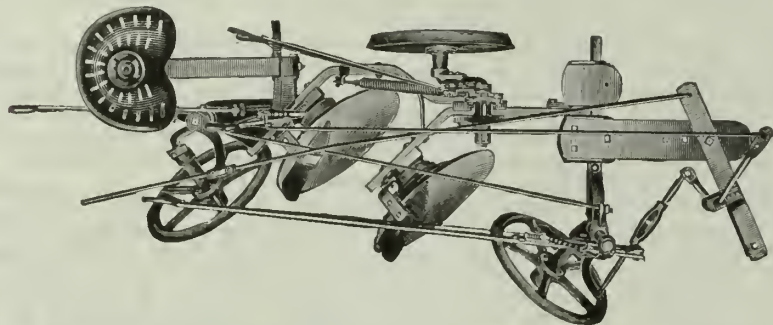
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

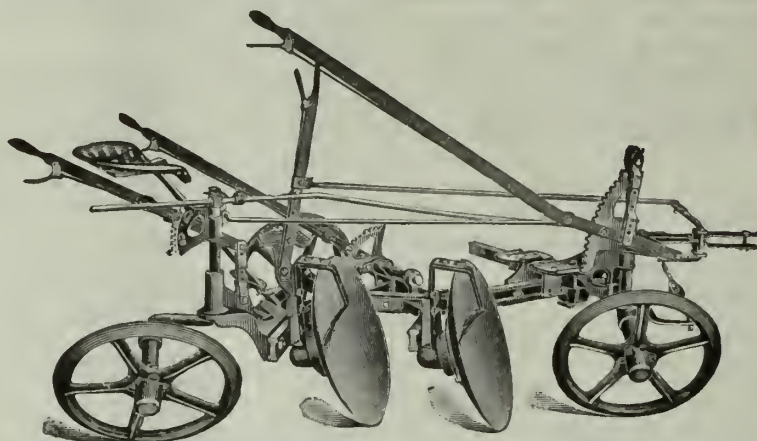
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.

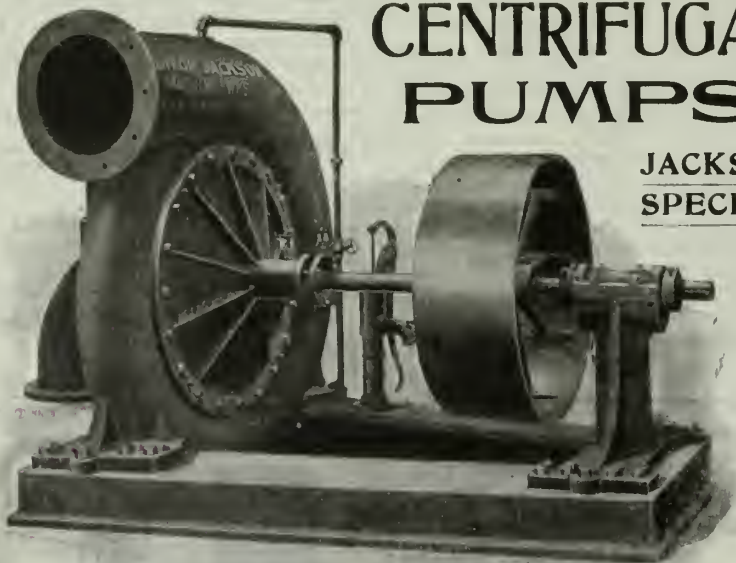


"KENTUCKY" DISC DRILL, STEEL FRAME

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



## CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST. SAN FRANCISCO.  
Write for Catalogue E.

FOR INFORMATION REGARDING  
PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,

Write KROGH MFG. CO.,  
519 MARKET ST., SAN FRANCISCO.

GREENBANK BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

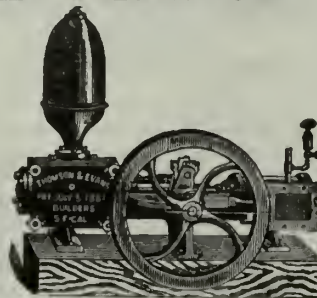
We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

ALLISON, NEFF & CO.

## C. H. EVANS & CO., Machine Works.

Thomson & Evans  
Steam Pumps.

DEEP WELL  
and  
POWER PUMPS.



MARINE ENGINES.

SHIP and STEAMBOAT  
WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St.  
SAN FRANCISCO.

FRANCIS SMITH & CO.,  
—MANUFACTURERS OF—

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.  
83 FREMONT STREET, - - - - - SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

## PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.



This paper is to be taken from library.

STATE LIBRARY

# THE PACIFIC RURAL PRESS

State Library Building  
701 April 1897

## CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 16.

SAN FRANCISCO, SATURDAY, OCTOBER 24, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Mountain Activities.

One does not know California until he gets a glimpse once in a while at the mountain activities. A general glance at the mountains from some valley point of view is not enough to constitute knowledge of the mountains. Such a glance is uplifting, it is true, and valley people should be constantly exalted by it; but knowledge of the mountains is only gained by their immediate presence and full knowledge of mountain activities, and their contribution to the general advancement of the State can only be had by mountain life of greater or less duration. To those, however, who can not escape from valley pursuits even for excursions to the higher levels, there may be found some suggestive value in pictures, and for that reason we indulge in them in this issue.

Our first picture is suggestive of the way in which ingenuity is invoked to do things with available natural agencies. In the midst of the forest a small stream has been corraled and its power is being employed to operate a hydraulic hoist which works a rude derrick made from the straight trunks of young trees, and in this way the large boulders are lifted from the excavated bank to places where they are out of the way, or to serve a purpose in dam construction. It is wonderful how many useful things in the turning of streams to profit by making the water act as an excavator and then carry the earth by its direct flow to deposit it where it is needed for filling in, as has been done in building dams and roadways in southern California, or by making the water do the lifting, as is shown in the picture. The commoner uses of the power of small streams or ditches in operating sawing or grinding machinery, or more recently in generation of electricity, are, of course, encountered wherever men have made homes and entered upon industry in the mountains. But water is not always useful in its natural bed or by ditch line, as shown in the engraving. It must sometimes be carried across gulches or stream beds and then the pipe line comes into play. How rude may be the arrangements to deliver a very useful head of water across rough country is shown by a pipe line in another



A Scene in Northern Trinity County, Cal.

picture. The trestle looks very insecure, but it has done its required work for a long time and may serve its purpose much longer. Besides the advantage of little cost, which may have been of much moment to its owners, it has an element of the picturesque about it, which the most approved construction would not possess.

Another picture shows a ridge-top scene in one of the most purely mountainous counties of California—Trinity county. It is suggestive of the mineral industry of the mountains. The forest has been cleared away and the timber has gone into the surface structures which the picture shows, or has gone below to meet the

miners' needs. The picture is also suggestive of the winter at those high levels, for the serpentine construction is a snowshed which protects traffic between tunnel and mine during snowfall. This period often begins early in the autumn, for two weeks ago a flock owner, crossing from Trinity to the lower levels of Tehama county, was caught in the hardest storm he has experienced in twenty-five years. The mountain people are expecting an old-fashioned winter this year on the basis of its early beginning, and that is a thing which pleases everyone.



Operating a Derrick With a Hydraulic Hoist in the Mountain District.



Piping Water Across a Mountain Stream Bed.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON Horticultural Editor

SAN FRANCISCO, OCTOBER 24, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—A Scene in Northern Trinity County, Cal.; Operating a Derrick With a Hydraulic Hoist in the Mountain District; Piping Water Across a Mountain Stream Bed, 257.  
EDITORIAL.—Mountain Activities, 257. The Week, 258.  
QUERIES AND REPLIES.—Last Dip for Prunes; Alfalfa Sowing; New Peaches in Mariposa County, 258. Those Spotted Oranges; English vs. Californian Steam Plows; Eucalyptus Stumps Again; English Walnuts Near Lathrop; A Newcomer Wants to Know Several Things, 259.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Oct. 19, 1903; Temperature and Rainfall, 259.  
AGRICULTURAL SCIENCE.—Reclamation of Alkali Land at Fresno, Cal.; Manufacture of Perfumes in Grasse, 260.  
HORTICULTURE.—Flower Culture for Distilling in Southern France, 260. Food Value of Fruits and Nuts, 261.  
THE POULTRY YARD.—Squab Raising in San Jose; About Squab Raising, 261.  
VITICULTURE.—Fermentation of White Grapes; Mr. Hoops Talks Further About His Discovery, 262.  
FRUIT PRESERVATION.—Apple Cider and Vinegar Making, 263.  
FORESTRY.—Destruction of Cork Forests of Italy, 263.  
AGRICULTURAL REVIEW.—264.  
THE HOME CIRCLE.—Harvest Time at Home; The Other One; Eating Before Sleeping, 264. Sparking the Mexican Girl; Helps for Young Mothers; Domestic Hints; The Instinct to Chew; Hints to Housekeepers, 265.  
THE MARKETS.—Produce Market; Fruit Markets, 266.  
FRUIT MARKETING.—Mr. Kearney's Observations and Views; Prune Trade of Southeast Europe; The Walnut Crop of Chile, 268.  
THE FIELD.—The California Bean Crop, 269.  
PATRONS OF HUSBANDRY.—Parcels Post at the State Grange, 270.  
MISCELLANEOUS.—New Patents, 267.

## The Week.

After the hot spell comes the national convention of the bankers of the United States and the coolness of the atmosphere surrounding these Napoleons of finance is quite refreshing. The business men of San Francisco are extending a very cordial welcome to the distinguished coin keepers from all the States, but the welcome is being administered in a very dignified and decorous manner. San Francisco is doing so much in the way of entertaining national conventions of all sorts of people that she is becoming a most discriminating hostess. There were, of course, no processions and street decorations for the bankers—no blare of trumpets nor glare of electric lights—bankers are not impressed by such delights of the multitude. There were plenty of flags flying and plenty of rubber-tired vehicles to whirl the visitors to deep-cushioned chairs beside tables almost concealed by their burdens of choice viands pillowed upon rare exotics—in fact, just what was calculated to make the swelldom of finance feel at home after its long journey was fully and generously done, and the visitors were duly impressed with the greatness and hospitality of California by tokens which they could best interpret. It was all very handsome and to the credit of the State.

Spot wheat has gone off 2½ cents per cental and there have been no clearances, though the usual amount of flour has gone to Asia and South America. Milling and shipping wheat are at wider range. Barley is weak, but not lower, for spot and futures have dropped, but have partly recovered and are quiet. Two shiploads of barley have gone out. One charter has been made for barley at 13s direct, or 13s 6d for orders. Oats are in fair request, but no higher, while corn is lower and is mostly Eastern. White and pink beans have improved, while Bayos, and especially Limas, are weaker at this point. Alfalfa seed is high; California at 16 cents and Utah at 13½ cents. Millfeeds are declining. Hay is mostly in dealers hands and held up; it is hard to sell outside lots at full figures. Choice beef is very firm, other grades unchanged; mutton is steady and hogs weak, with small hogs lower. Fancy fresh butter has been crowded up a little, but Eastern cubes are in full supply and Eastern markets are soft. Cheese is unchanged. Fancy fresh eggs are still out of sight and trade goes on storage and Eastern—the latter at all prices from 20 cents up.

Poultry is mainly weak—especially chickens. There are heavy arrivals of Eastern stock. Potatoes are as bad as ever and onions are a little easier this week. Fancy apples sell up to \$1.50 per box for the best 4-tier Spitzenbergs. New Navel oranges are in from Placer county and have sold at \$5 per box. There is a fair movement of lemons, but supplies are ample and prices unchanged. Table grapes have sold fairly, especially Muscats in large open boxes. Wine grapes at this point are still slushy in quality and prices. Dried peaches are reported turned down by dealers, though in good condition, and an effort to break the market is scented. There is more doing in prunes but at a little lower range—Santa Claras passing at 2c@2½ cents. A steamer shipment of prunes, 450 tons, mostly to Germany, has been made. Nuts are strong. More honey is offering and prices are said to be shaded by sellers. Hops are weak here, but Eastern markets keep up well. Wool sales at Cloverdale are reported in our Market Review; little doing here.

Honors have recently been conferred upon Prof. E. W. Hilgard by the Universities of Heidelberg and California, which our readers will rejoice over. In the first place the 7th of October was the fiftieth anniversary of the conferring of a doctorate upon him, with the highest honors, by the University of Heidelberg. The occasion was noted by his alma mater by the reconferring of the degree with a special tribute to the distinguished services rendered by Dr. Hilgard to science and education. This is a rare honor and one that has been seldom attained. The second event was suggested by the first and was expressive of the appreciation by Dr. Hilgard's associates in the University of California, of his eminent achievements in science, his exceptional scholarship and his incalculably valuable work in the industrial development of California. Such sentiments as these were formally expressed upon parchment, signed by the President and faculty of the University, and presented at a University meeting with appropriate remarks by the President. The doubly interesting events have attracted much attention and the warmest commendation of their fitness and the worthiness of him who received the honors.

Another event of the week which has caused much satisfaction in the hearts of the American people is the settlement of the Alaskan boundary by arbitration, and this, if we mistake not, removes the last of the points at issue between the British government and our own on this western end of things. It is well to know just where our line fence is in a country which is becoming so important, and to find it just where we claimed it should be is a matter of much pleasure. In the past there have been wars over boundaries, and they have been set in the wrong places also. Peace gives us this in the right place.

Our promotion people are worried not a little by publications in Eastern journals that our industries are going to the bow-wows. It transpires that some sharp Eastern writer has secured possession of the columns of grief which our county assessors and supervisors have poured out before the State Board of Equalization in making claims that assessments should not be raised. We are not surprised that these curses come home to roost. Whenever a delegation starts for the State capitol on this mission bent, each member begins to pull down his jaw as soon as he boards the cars at his home station, and when the group reaches the State capitol every one has his jaw lolling nicely on the front of his waistcoat. The untruths which men tell while in that morbid condition should not be charged against them, perhaps, but there ought to be some provision of law that these hobgoblin yarns should be told to the Equalizers in executive session. What a man tells a county assessor about his affairs is not fit to print, and the same is true of the statements which the county assessor tells the equalizers. They are as a rule self-slanders told with wrong intent. But the papers at the Capital vie with each other in giving the gresome details, and now some sharp Eastern writers, dipping their pens in sensation ink, are setting forth the whole business to our disadvantage. If they would only say that these statements are made in connection with tax-fixing no one would be deceived by them,—but to do that would be to spoil the sensation. Anyone who is thinking of California and allows him-

self to be deceived by these reports of disaster is not wise.

The general facts about our California industries are quite the reverse of the alleged facts which are presented in the writings which have been brought to our attention. There has not been since the recent development of our agriculture a more prosperous general condition than at present. Activity and opportunity were never better, and the outlook for profitable return for wise investment and effort was never brighter. There are, of course, local disappointments from unfavorable conditions and from boom expectations which never should have been entertained, but those who have wisely proceeded to use their labor and money in production which they understand and have not gone plunging about in a speculative way, results have been gratifying. There is plenty to do and good pay for those who know how to do it. The chief disappointments have come to those who have spent most of their time in other pursuits, and looked upon farming as a snap, which any one could do without knowing much of anything about it. In the nature of things such people are likely to be disappointed, and yet some of our most successful people have learned how to farm with that start. There is a lot of difference in people.

## QUERIES AND REPLIES.

### Last Dip for Prunes.

TO THE EDITOR:—I am desirous of obtaining a recipe for treating dried prunes before packing in boxes. I understand they are dipped in some kind of liquid that gives them a very dark, glossy appearance. Any information pertaining to this treatment for prunes will be gratefully appreciated through your valuable PACIFIC RURAL PRESS.—R. K. P., South San Francisco.

After sweating in mass to equalize moisture, and before packing, the prunes may be dipped in this preparation: Water 80 gallons, glycerine 6 quarts, glucose 8 quarts. The dip should be kept hot, even to boiling, if possible, and the prunes are left in the dip from two to five minutes, according to size and condition. The use of high heat in the last dip seems to sterilize the fruit and prevent fermentation afterward.

### Alfalfa Sowing.

TO THE EDITOR:—Would I get a good stand by seeding alfalfa in this district, in a sandy loam soil, in the early part of December?—READER, Lodi.

It depends upon the temperature and moisture. Sometimes such sowing does well if the situation is not too frosty, but it is a better proposition to sow a month or two sooner if the ground is moist enough so as to get the plant further along before the cold weather sets in.

### New Peaches in Mariposa County.

TO THE EDITOR:—I send you a sample of a seedling peach which ripens after the Salway is gone, and which, because of its size, firmness, richness and freestone character, would make it of some value. If it proves valuable the name Sierra would seem to be suitable. I have another seedling almost identical with the Muir, but ripening a month later. It is a little more juicy than the Muir.—FRANK FEMMONS, Ahwahnee.

We have greatly enjoyed the specimens of the seedling peach which you have sent for examination. You do not overestimate its desirability. The only matter of doubt that occurs to us is that we have several very good seedlings, large, rich, yellow freestones, ripening after Salway, in different parts of the State, and it is doubtful which of them should be selected for wider propagation, and nothing short of growing them side by side in the same locality would settle this matter as to relative excellence, although each of them might have special local adaptations. We would keep this seedling in sight, propagate it for your own planting, if you can find opportunity to market it to advantage, and at some future time probably opportunity will arise for comparative tests of it with other varieties. You are fully entitled to name it the Sierra. That is a privilege which belongs to any originator or discoverer of a new variety. The reproduction of the Muir characteristics, with a month's difference in time of ripening, would seem to be quite important, though, of course, one great point of value in the Muir lies in the fact that it ripens rather early, consequently has the best of



the drying season. We are not sure how the same peach a month later would stand from a commercial point of view.

Those Spotted Oranges.

To THE EDITOR:—May I correct an error in last number of your excellent paper? You speak of the spotting of fruit at Ontario and threatened lawsuits and give the cause as distillate spray. This is a great mistake. In every case, the suggested cause was fumigation. We hear very little talk of either spotting or leaf falling by spray; indeed, there is very little cause for any complaint.—A. J. Cook, Claremont, Los Angeles county.

We are glad of the correction. It also appears according to a local account reproduced on page 263 of this issue that good and not harm was done by the treatment, whatever it was. This southern California battle of the insecticides is getting so mixed that the local writers do not seem to know whether they ought to sing or to shoot. If they would all try singing, the State would like it better.

English vs. Californian Steam Plows.

To THE EDITOR:—I am very much obliged for the information you have given from time to time about steam plowing in California. Do you consider the work done by a single engine drawing the plows after it to be equal to that done by the double engines, using the cables in the English system? I am authentically informed that Mr. Fowler, the Leeds manufacturer, recently visited California and New Zealand to see these machines at work, with a view to manufacturing a similar article, but that he has returned with the verdict that they do not do the good work required by English and Colonial farmers. Have you heard anything of this?—SUBSCRIBER, Pretoria, Transvaal, S. A.

Unquestionably the California apparatus for steam plowing is not so well adapted to heavy soils, nor to the deep plowing which is thought to be necessary in the home country and in some of the colonies, but wherever the soils are of such light, loamy character as in large districts of California and where the successes of the grain crop depends upon retaining a somewhat firm condition in the subsoil, these plows are unquestionably far cheaper in operation and sufficiently thorough to meet the conditions. We know that the English idea is for an immense amount of preponderating strength in all their agricultural machinery; in fact, they overdo the matter, clearly, and that is one reason why American agricultural machinery is supplanting British in various parts of the world. The English manufacturer who visited California evidently judged everything by his local standards and missed the proper conclusion, so far as his manufacture relates to a country like ours, except perhaps where very deep work is, for some reason, desirable and where injury is likely to be done by the passage of the heavy engine over the soil when moist. Most of our steam plowing in California is dry plowing.

Eucalyptus Stumps Again.

To THE EDITOR:—Can you kindly furnish me with a practicable and efficient way to kill the blue gum (E. Globulus Eucalyptus) tree, root and branch? A friend of mine, having built on a portion of a eucalyptus clearing, is in a state bordering on despair because the roots from the tree mentioned, including some of its live stumps, are filling and choking up his drains; getting through the interstices of the cemented joints, and threatening to loosen the stone foundations of his house.—READER, San Francisco.

Eucalyptus roots can be killed out by an adequate application of common salt to the soil, allowing the rains to wash it down to contact with the roots, but this would also destroy the soil for the growth of grass or anything else for a considerable period of time. No application of acids or other chemicals to stumps has been effective in destroying their vitality. As shown on page 102 in the issue of August 15, ample experiments have been made in this direction and no success attained. The best and most practicable way to get rid of the growth is to grub out the stumps, or blow them out with dynamite, cutting the roots at some distance below the surface and in that case they will decay. If this is too great an undertaking the stumps can be killed by peeling off the bark thoroughly and carefully down to and below the ground surface, and then watching and removing at once any sprout that may come from some fragment of bark which is overlooked in the peeling. If this complete prevention of growth is maintained for one year, the roots will decay.

English Walnuts Near Lathrop.

To THE EDITOR:—I have twenty acres of land east of Lathrop; soil a sandy loam, fairly heavy, with here and there a little hardpan or veins of clay, but on the whole pretty good land, moist enough to grow anything. I had five acres of it planted last winter in walnut trees, Softshell, Franquette, Praparturiens, Serotina and Chaberte. They did pretty well until the neighbor that planted them and takes care of them put tarpaper around them, and then most of them got black and died, but grew out again, and as soon as the leaves got full grown they got black and dropped off. Now the man thinks the climate and soil are not suited for walnuts. Therefore I decided to write to you and ask you to kindly give me your advice, as I intend to plant more acres in walnuts this winter. Is San Joaquin county suitable for walnuts or is it too hot and the rainfall not sufficient, and what varieties will grow best, the English Softshell or the French?—PLANTER, San Francisco.

We have no idea that English walnuts will be satisfactory in the region you indicate, except it be upon some pieces of deep land altogether free from hardpan and furnished with a good deal more moisture than is found in the plains district about Lathrop and yet is not subject to standing water in the winter. The walnut tree needs a deep, free soil and just the right degree of moisture. It must not be too long water soaked in the winter, nor must it be short of moisture in the summer. The trees of which you speak were probably seriously bark burned by the use of the black paper. No one should ever use black paper around a fruit tree, because it tends to concentrate the heat and to kill the bark under it. We would not think of planting more walnuts until we had better reason than you now have to think that the situation is adapted to them. The French varieties are altogether best, and if they will not succeed there is very little encouragement for you to undertake walnuts at all. There are good walnut lands in San Joaquin county and there are also lands wholly unsuited to the tree.

A Newcomer Wants to Know Several Things.

To THE EDITOR:—I have read about molasses as food for horses at 12 cents per gallon. Can molasses for this purpose be had in this market at any such price, and, if so, where?

What can you say of penicillaria? Can it be had here? Could it be sown this fall for a winter crop? What kind of a plant is it—of the Kaffir corn family, or like millet?

Is there anything in ginseng for us here, or is it as yet a "graft" on the part of those advertising it so extensively?

Can salt bush be planted now for late fall and winter feed? Can seed be had in this market?

Given adobe land, mostly in young prunes (five years old), what, in your judgment, is the best use to make of it for forage for horses, cows and poultry? What can be planted this month to advantage, and what later? A newcomer to California, I am quite at sea as to conditions and possibilities.—NEWCOMER, Santa Rosa.

The molasses used for feeding animals generally is the refuse from beet sugar making, and you can get an idea of the prices and amount available by addressing any of our beet sugar factories.

The plant penicillaria has been grown in the hotter, drier parts of California for the last twenty-five years under the name of pearl millet. It makes a summer and not a winter growth. It is a coarse, rush-like plant, is less nutritious than Kaffir corn and, although it is called pearl millet, it does not grow like the millets do, but more like a cattail bull-rush. You can get seed from San Francisco dealers.

There is no likelihood that ginseng will succeed in California, although a good many people are being attracted to a trial by the very free advertising that is being done.

Salt bush should be sown at this time of the year and covered over lightly. In some parts of the State it will make a good winter growth and it is not liable to winter killing. You can get seed from the San Francisco dealers. It is doubtful if it will be of any particular use in your locality, except, perhaps, for chicken feed.

It is not likely that it will be advisable for you to grow anything in the young orchard during the summer time, because of the loss of moisture. You may have surplus moisture available during the winter, and then a crop of oats and peas sown together and cut for forage would be the best arrangement we can suggest. This crop can be sown as soon as there is moisture enough in the land to keep it going, and it can be cut and fed green, so as to get the land

cleared off in good shape for spring plowing. Care must be taken to get this work done early enough in the spring, or else it would be almost impossible to secure perfect surface cultivation, which is necessary to retain moisture and keep the trees from suffering before the end of the long dry season. It should be said, however, that the experience of owners of orchard trees of the age you mention is generally against the growth of any crop between the trees. It is thought to be better practice to give the trees themselves the full use of the soil and of the moisture supply.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 19, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

The weather was warm and clear during the week, and very favorable for ripening late grapes, raisin making and fruit drying. Heavy shipments of Tokay grapes are being made at Sacramento, and large quantities of wine grapes are going to the wineries. The rain of last week caused very little damage. Oranges are coloring rapidly and give indications of a large yield. The first oranges of the season were received in San Francisco from Rocklin, Placer county, on the 15th, which is said to be the earliest record for the State. Dry feed is becoming scarce, and cattle coming from the mountain districts are reported in poor condition.

Coast and Bay Sections.

Warm, clear weather prevailed during the week, with temperatures above normal most of the time. Heavy fogs in the Bay district impeded water traffic. Light rain fell on the northwest coast. The rain of the preceding week caused very slight damage to crops and benefited grass in some sections. The southern bean crop is nearly all thrashed and under cover. Potatoes are reported below average in Sonoma and Humboldt counties. Corn harvest continues. The wheat crop in San Benito county was almost a failure, but barley and hay yielded good crops. Grape picking continues and large shipments of Tokays are being made from the Vacaville district. Deciduous fruits are mostly dried and disposed of; the crop was generally very satisfactory.

San Joaquin Valley.

Clear warm weather prevailed during the week, with light winds; conditions very favorable for raisin making and prune drying. The first crop of raisins is all cured and moving rapidly to packing houses; the second crop is curing satisfactorily, and with a few more days of favorable weather the entire raisin crop will be beyond danger. Prune drying is nearly completed; the quality of the fruit is much better than that of last season. There are still a few late grapes on the vines in some sections, which are being rapidly picked, shipped and sent to wineries. Oranges are coloring and picking will commence soon. The fifth crop of alfalfa is being harvested in San Joaquin county, and alfalfa thrashing continues in Tulare county. Plowing and seeding are in progress in Merced and Stanislaus counties.

Southern California.

Generally clear weather and abnormally high temperature prevailed most of the week, with occasional fogs along the coast. High winds on the 12th and 13th damaged walnuts in Ventura county. Field and forest fires caused considerable damage in the vicinity of Los Angeles, Santa Paula and Ventura. Bean harvest is nearly completed and thrashing is progressing rapidly; the crop is below expectations in most places. Sugar beet harvest is practically completed, and the Oxnard factory has closed; the crop is reported about the same as last season's. Wine grapes are moving rapidly, and late peaches are going to canneries. Raisin making and fruit drying are nearly completed. Oranges are in excellent condition; the trees are heavily laden with fruit of large size. Walnut picking continues.

LOS ANGELES SUMMARY.—The week closed with high temperatures. Orange groves are in good shape, with plenty of water; trees are loaded with fruit of fine quality.

EUREKA SUMMARY.—Weather conditions were generally favorable; grass is making good growth and stock are looking better. Plowing is progressing. Fall grain is coming up nicely. A few farmers are putting in crops.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 21, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka.....	.02	3.24	1.03	3.47	72	46
Red Bluff.....	.00	.44	1.50	1.57	92	50
Sacramento.....	.00	.14	.64	1.09	88	54
San Francisco.....	.00	.17	.66	1.23	84	50
Fresno.....	.00	.00	T	.63	96	56
Independence.....	.00	T	.30	.47	84	50
San Luis Obispo.....	.00	.02	.05	1.54	88	44
Los Angeles.....	.00	.43	T	.63	96	52
San Diego.....	.00	.06	.92	.42	74	52
Yuma.....	.00	.62	.57	.85	96	56



## AGRICULTURAL SCIENCE.

### Reclamation of Alkali Land at Fresno, California.

NUMBER 11.—CONCLUDED.

By THOMAS H. MEANS and W. H. HEILEMAN, in Bureau of Soils Circular No. 11, U. S. Department of Agriculture.

**THE CHEAPEST SYSTEM.**—It was necessary in the reclamation of the Toft-Hansen tract to effect drainage by pumping; but, fortunately, in the area at large there is no necessity for pumping, since, with the exception of very small areas, all land tributary to the district under consideration can be drained by gravity. While the cost of pumping water has been very much reduced in recent years and pumping plants are being used in irrigation and drainage, the experience gained by the bureau's field parties and the facts brought out by a study of pumping plants for drainage at home and abroad, are strongly opposed to the use of such plants when it is possible, without too great outlay, to carry off the water by gravity. The conditions around Fresno are exceptionally favorable for a gravity system.

Having determined that a gravity system is feasible, the next step is to find out how such a system can best be operated, whether through the use of open or closed drains. Open drains of the proper depth for main, primary and secondary drains in the Fresno district would have to be dug largely below the level of standing water in what is frequently a quicksand. Such drains, if they are to stand, would have to be boxed in at the bottom and sides and made very wide at the top. The plan has been proposed of placing these drains along the county roads running east and west. There is not always room in these roads to permit a 20-foot ditch being dug without encroaching upon private property; hence, over more than half the distance a right of way would have to be purchased. The building of bridges and the necessity for annual cleaning are items of expense to be included in the cost of open drains. A comparison of the original cost of open and tile drains is given below.

The estimates of open drains are based upon prices of similar work in other parts of the country and are, if anything, rather low. The cost of tile draining should vary little from the estimate given.

#### COST OF OPEN DRAINS PER MILE.

Ditch 4 feet wide on bottom, average depth 7 feet, slope 1 to 1	\$2,257 00
Two road bridges, at \$75 each	150 00
Four farm bridges, at \$50 each	200 00
Right of way, 1½ acre, at \$150 per acre (half the area occupied by ditch)	187 50
Total cost per mile	\$2,794 50

The cost of the tile drain per mile will vary from \$1000 for 6-inch to \$4000 for 24-inch tile. The average cost per mile will be about \$2440—a figure below the estimated cost of open ditches. When it is seen that no estimate can be made for boxing the open ditches, and when the greater convenience of the tile is considered, it is obvious that the tile are far cheaper and far more desirable.

**HOW THE DRAINS SHOULD BE LAID.**—A detailed study of the conditions existing in the district south of Fresno, at present most urgently in need of drainage, has developed the following plan as the one most economical and practical: Parallel lines of tile should be run through the district, following the maximum slope of the ground in a general east and west direction, and at an average distance of one-half mile apart. These lines begin with 6-inch tile, and in the longest lines end with 24-inch tile, all laid at an average depth of 7 feet. The exact location of the lines, whether along the roads or in the fields, will depend largely upon the surface conditions of the soil. No attempt should be made to lay down perfectly straight lines, for slight deviations from an east to west direction will frequently be of great advantage. The tile are laid on a board bed to prevent sinking in the soft subsoil, and at intervals of 500 feet redwood silt boxes are placed with the bottom 1½ feet below the bottom of the tile for the collection of sediment and debris. Each line of tile is supplied with a ¼-inch galvanized strand-wire rope, so that a cleaning brush can be drawn through two or three times a year to remove roots and stir up sediment.

The water from these parallel drains will be collected in an open ditch running in a southwesterly direction just west of West Park. This drainage ditch will have a fall of 1½ to 3 feet per mile throughout its course, dropping where necessary to keep the bottom below the opening of the tile, and will deliver water at the surface of the ground for irrigation south of the Southern Pacific Railroad, between Ormus station and McMullin.

Such a system could be built for a total cost not to exceed \$10 an acre, based upon a district 25,000 acres in extent.

**WHAT WILL BE ACCOMPLISHED.**—A system of this sort will lower the water table to 5 feet and will not allow it to rise above this level for more than a few days at any one time. With water at 5 feet below the surface, the spread of alkali will cease, and those lands only slightly damaged will be at once easily re-

claimed. Those tracts where alkali is now greatly accumulated it is deemed best to drain with additional lateral tile, laid at from 4 to 4½ feet below the surface and 150 to 300 feet apart. Laid at a depth of 4 feet and 200 feet apart, such drainage will cost about \$16 per acre.

Land so tiled, even if badly alkaline, can be returned to profitable cultivation in six months if heavily irrigated, and within one year can be used for the production of any crop suited to the climate.

As bearing on the cost of tile drainage, it may be mentioned that through the efforts of the Bureau of Soils several deposits of good clay have been located within convenient distances of Fresno, and that tile-making tests have been carried out. Excellent tile have been made from these clays, and it is hoped that when their manufacture has further developed prices much more in keeping with the cost of production can be obtained on tile, especially when ordered in large quantities. Fuel is cheaper than in the tile-making districts of the East, and the cost of labor is about the same, so there is no reason why tile should not be manufactured and sold at Fresno at very little, if any, advance—for instance, over the prices asked in Illinois. The foregoing estimates are, however, based upon prices 15% above Illinois prices. We have received assurances from responsible clay workers that if the prices quoted by local firms are not consistent with the value of the article, a tile factory will be built and tile sold at a fair profit.

**USING THE DRAINAGE WATER FOR IRRIGATION.**—The drainage system outlined above can reasonably be expected to flow 30 cubic feet of water per second throughout the irrigating season, which, at the present value of water around Fresno, would be worth \$15,000. This water will be brought to the surface of the ground in a district southwest of Fresno which only needs water to render it fertile. There is a great deal of alkali land which could be reclaimed with this water and made to produce valuable crops. The drainage water from the Toft-Hansen tract has been repeatedly analyzed to determine its value for irrigation purposes. The following analyses show the composition of the water during the three weeks when it was most concentrated:

#### CHEMICAL ANALYSES OF DRAINAGE WATER FROM THE TOFT-HANSEN RECLAMATION TRACT.

Constituent.	May 9, Sample No. 9. %	May 16, Sample No. 10. %	May 23, Sample No. 11. %
<b>Ions:</b>			
Calcium (Ca)	3.57	3.58	5.36
Magnesium (Mg)	3.64	3.76	4.28
Sodium (Na)	20.49	19.72	15.47
Potassium (K)	1.58	1.44	1.76
Sulphuric acid (H <sub>2</sub> SO <sub>4</sub> )	2.06	1.88	3.06
Chlorine (Cl)	9.62	9.69	10.73
Bicarbonic acid (HCO <sub>3</sub> )	51.62	54.79	59.34
Carbonic acid (CO <sub>2</sub> )	7.22	5.14	.....
<b>Conventional Combinations:</b>			
Calcium sulphate (CaSO <sub>4</sub> )	2.88	2.63	4.36
Calcium chloride (CaCl <sub>2</sub> )	7.56	2.63	11.17
Magnesium bicarbonate Mg (HCO <sub>3</sub> ) <sub>2</sub>	21.94	22.68	25.90
Potassium chloride (KCl)	3.03	2.76	3.37
Sodium bicarbonate (NaHCO <sub>3</sub> )	46.17	49.49	52.00
Sodium chloride (NaCl)	5.57	5.59	3.21
Sodium carbonate (Na <sub>2</sub> CO <sub>3</sub> )	12.86	9.09	.....
Total solids in 100,000 parts water.	145.4	159.2	180.6

Of the salts shown to be in the drainage water, about three-fourths may be regarded as harmful. The remaining 25% are principally salts of lime and magnesium, which would precipitate out by evaporation as the water concentrates upon a field. Sodium carbonate or black alkali, although the predominating salt found in the surface of the soil, is not present in any quantity in the drainage water. Sodium carbonate has never been found in the drainage water as it comes from the tile; but after the water stands and aerates, this salt forms by the decomposition of the sodium bicarbonate, so that, though we have removed large quantities of black alkali from the soil, it has never appeared as such in the drainage water. The explanation of this is that the sodium carbonate or black alkali seldom exists as such except in the first few inches of surface soil, and as soon as it is washed into the soil it absorbs carbonic acid gas, with which the soil air is always more strongly charged than is the atmospheric air, and forms the much less harmful sodium bicarbonate.

Numerous examples can be given where waters of greater concentration than this drainage water are successfully used for irrigation, both in the United States and in other countries, and it can be definitely stated that water of this character can be used for irrigation upon any soil where adequate underdrainage is maintained. If such water were used upon poorly drained soil the inevitable result would be an accumulation of alkali at the surface. The drainage water from the entire alkaline area will not be as concentrated as that shown in the table; on the contrary, it will be much better for irrigation purposes. These analyses are typical of what might be the maximum quantity of harmful salts, and moreover represent a condition which can exist but a few months at the most, when the drains are first installed.

**A DRAINAGE DISTRICT.**—The reclamation work on the Toft-Hansen tract has progressed so far that the most skeptical must be convinced that drainage and irrigation will reclaim alkali lands. A district of nearly 26,000 acres is now suffering more or less from alkali and seepage water, and it rests with the owners of this land to form a drainage district under the Act passed by the last Legislature of California, approved March 20, 1903. The formation of this district will

allow the construction of a drainage system which will result in the reclamation of all lands now alkaline and the prevention of further damage from this source.

The system recommended, after over three years' study of the conditions, consists of tile drains varying in size from 4 inches to 24 inches. The main drain will be an open ditch collecting the water from the parallel tile drains one-half mile apart. This main will deliver the water at the surface of the ground in the district west of Fresno where it can be used for irrigation. The main tile will be laid in approximately straight lines, increasing in size up to 24 inches in diameter. On the fields badly charged by alkali further drainage by 4-inch, 5-inch and 6-inch tile laterals may be necessary, but such fields are comparatively few. The cost of this system, calculated on a basis of 20,000 to 26,000 acres, should not exceed \$10 per acre. The work of the Bureau of Soils legitimately ends with the demonstration now being completed on the Toft-Hansen tract. The formation of the district and the building of drains and the reclamation of land will rest entirely with the voters and the owners of the land.

### Manufacture of Perfumes in Grasse.

From United States Consul-General Richard Guenther, Frankfurt, Germany.

The following data may interest Americans, especially in southern California:

The city of Grasse, the most important industrial place of the Riviera, is widely known on account of its perfume manufacture. At present thirty-five concerns making essences of flowers are in operation there. The average consumption of roses for that purpose is about 2,650,000 pounds and that of orange flowers about 660,000 pounds per year. The annual sale of these essences amount to \$1,000,000. Valauris has nine such factories.

The most important product of this industry is oil of neroli, made from the flowers of the bitter orange. A kilogram (2.2 pounds) of this oil is worth \$60. From the peel of the bitter orange oil of orange is made. The peel of the sweet orange is seldom used for making oil. The manufacture of essence of roses is also very extensive.

The so-called oil of roses is manufactured from the grass *Andropogon schoenanthus*.

The flowers of the large flowered jasmine yield the oil of jasmine. A hectare (2.471 acres) planted with jasmine is said to yield a yearly product worth \$3000, but requires a great deal of work. Filled violets formerly brought from \$1 to \$2 per kilogram (2.2 pounds); at present, however, they bring only 50 cents. A kilogram of essence of violets is worth from \$4.50 to \$5.

Oil of geranium is produced from the flowers of *Pelargonium capitatum*. The flowers of the tuberose, of the jonquil and of a species of narcissus are manufactured into essences; also the leaves of the citronello plant, the root of the Iris florentina (violet root), the patchouli flowers, sandalwood, etc.

Fortunately for many places in the Riviera, the consumption of these essences has not decreased in late years.

Although many of these perfumes are bad for the nervous system, others are recognized as antiseptics. It is claimed that the typhus bacillus is killed in twelve minutes by essence of cinnamon, in thirty-five minutes by essence of thyme, and in eighty minutes by essence of patchouli.

## HORTICULTURE.

### Flower Culture for Distilling in Southern France.

From United States Vice-Consul Atilio Piatti, Nice, France.

A considerable number of inquiries have been received at this consulate during the past few years touching the cultivation of flowers for purposes of distillation. They indicate that the writers are not at all informed as to this branch of industry, and I have thought that a special report on the subject would be of service.

**CULTURE.**—Land having a southern exposure is invariably chosen, and terraces upon hillsides, of which there are very many in this mountainous district, have often given the best results. The ground is well dug and well manured (artificial products for enriching the soil have as yet been used only to a limited extent); beyond this no special treatment is used, cultivators proceeding as with ordinary crops. In exposed places precautions are taken to cover the plants during December and January, when frosts are liable to occur. These are very light and never sufficient to affect the roots of the plant, and the coverings are intended to protect the blossoms, which during the winter season are sold to florists and are sent to the northern cities of Europe. Roses and other perennial plants are cut down, dug around, and manured in September. The winter crop of blossoms, coming from November to February, is sold to flor-



ists. The plants rest until about May, when a second crop of blossoms is produced, which is sold for purposes of distillation. As a precaution against insects and diseases, sulphur, lime and the Bordeaux mixture for vines are generally the only preventive measures used.

**KINDS OF PLANTS.**—The popular names of the plants used for the purpose of distillation, together with their botanical names and the months during which they are harvested for that purpose, are as follows:

Name in English.	Botanical Name.	When Harvested.
Parma violet.	Viola odorata.	February and March
Acacia.	Acacia farnesiana.	October, November and December
Jonquill.	Narcissus jonquilla.	April
Mignonette.	Reseda odorata.	June and July
Roses.	(Various. see elsewhere.)	April 20 to June 10
Orange flowers.	Citrus bigaradia rosso.	April 15 to May 31
Jasmine.	Jasminum grandiflorum.	July 20 to October 15
Tuberose.	Polianthes tuberosa.	August 15 to October 15
Pink or carnation.	Dianthus caryophyllus.	June and July

**PRICES OF THE BLOSSOMS.**—The prices paid for the different kinds of blossoms vary naturally with the supply. Very high prices range only when, for some reason or other, any special crop fails. As a general rule, the crops, being of a very perishable nature and requiring to be utilized as soon as practicable after being picked, are sold at prices fixed by the distilleries themselves. The producers are, therefore, more or less at the mercy of immediate buyers in the district, as the loss through spoiling, freights and other expenses would be very serious, even if it were practicable to forward the crops for long distances to other markets.

The market of Grasse being the principal one, I give below the prices paid per kilogram (2.2046 pounds) for these blossoms during the past six years. It should be noted that these prices are for the bare blossoms alone, and in the case of roses for the bare rose leaves:

Description.	1898.	1899.	1900.	1901.	1902.	1903.
Parma violet.	\$0 53	\$0 43	\$0 53	\$0 43	\$0 43	\$0 48
Acacia.	39	62	48	81	1 15	1 15
Jonquill.	39	62	82	1 02	48	76
Mignonette.	19	24	24	24	24	19
Roses.	10	11	16	19	15	13
Orange flowers.	10	09	12	17	10	09
Jasmine.	27	29	48	57	67	—
Tuberose.	33	33	48	43	48	—
Pink or carnation.	06	06	06	06	07	06

All these blossoms are used in the new system of distillation known as the "enfleurage system," or absorption by grease. Some of them—roses, orange flowers, and a limited amount of jasmine—are submitted to the old process of distillation.

This year, in the case of orange flowers, the distillers fixed a price of 6 cents per 2.2046 pounds for the crop, and in many sections proprietors and cultivators preferred to lose their crop, as the price did not cover the expenses of picking and sending to market.

Referring to the Nice market, I may say that the Rose de Mai is the one used principally for distilling. Of late years, however, a quantity of Bobrinski roses and Paul roses have been used. The quantity of Roses de Mai distilled annually here is about 120,000 pounds. The price per kilogram (2.2046 pounds) has varied for years between 10 and 18 cents—this last price in 1901. This year the price was 13 cents.

The following table shows the annual production and the prices paid per kilogram (2.2046 pounds) in the Nice district during the years 1900–1902:

Description.	—1900—		—1901—		—1902—	
	Produce- tion.	Price.	Produce- tion.	Price.	Produce- tion.	Price.
Violets.	30,000	\$0 53	38,000	\$0 43	30,000	\$0 43
Acacia.	3,100	1 06	2,000	1 06	1,600	1 15
Mignonette.	4,400	19	4,000	21	5,400	19
Orange flowers.	200,000	13	180,000	18	290,000	10
Jasmine.	15,000	29	16,000	49	2,000	57

About 1400 pounds of jonquills are used annually, at 57 to 95 cents per 2.2046 pounds; of tuberose about 600 pounds annually, at an average of 6 cents per 2.2046 pounds, and orange leaves, 150,000 to 200,000 pounds annually at about \$1.90 per 220 pounds.

**ROSE GERANIUM LEAVES FOR DISTILLING PURPOSES.**—I have preferred to treat this subject separately, as it has come to my knowledge that official inquiries on the subject are being made by representatives of other governments. This crop has attained large proportions in this district, and the annual production now reaches not less than 3,300,000 pounds. I have also ascertained that one hectare (2.471 acres) will produce 55,000 to 66,000 pounds of leaves, which are sold at from \$1.14 to \$1.33 per 220 pounds. The product in pure essence of each 2,204 pounds is 2.2 pounds. A small quantity is annually imported into Grasse from Italy, about 65,000 pounds are brought from Africa, and 55,000 pounds from Ile de la Reunion, near Mauritius. It should be borne in mind that what is known as "Turkish geranium" in the United States is simply a superior quality of essence of Palmarosa, manufactured in British India, and is not geranium at all. In point of fact, I cannot ascertain that any essence of geranium is manufactured in Turkey.

Food Value of Fruits and Nuts.

At the University of California Prof. M. E. Jaffa has carried on, in co-operation with the United States Department of Agriculture, a number of investigations which have to do with the food value of fruits and nuts, the special object of this and the earlier work which it continues being to study the value of

such foods when they constitute an integral part of the diet.

Nine dietary studies and thirty-one digestion experiments were made, part of them with persons who had lived for a number of years on a strictly fruit and nut diet, and others with university students who had been accustomed to the ordinary fare. In the majority of the dietary studies and all but one of the digestion experiments fruit and nuts constituted all or almost all of the diet. Thus, in one series of tests the daily ration consisted of apples and bananas, alone or in combination, eaten with walnuts, almonds, Brazil nuts or pecans. In other experiments different combinations of grapes, pears, figs, walnuts and other fruits and nuts were eaten with small quantities of milk, cereal breakfast foods, etc., the latter articles being taken simply to give a relish to the experimental dietary combinations, some of which were rather unusual.

In connection with this work, the nutritive value of individual fruits and nuts was studied and many data were collected and summarized regarding the composition and energy value of these materials, an interesting feature of the work being a comparison, on a pecuniary basis, of these and some common foods as sources of protein and energy. In general, it may be said that the chief nutrients in fruit consist of sugars and other carbohydrates and in nuts of protein and fat. In other words, while both fruits and nuts furnish the body with energy, nuts furnish some building material (protein) as well. Some idea of the range may be gained from the fact that at ordinary retail prices in the United States, 10 cents expended for fresh grapes will supply the body with about 830 calories of energy, and in the case of dried apples or apricots will supply about 1200 calories, as compared with 6600 calories from 10 cents' worth of wheat flour. In the case of almonds, this sum will supply 0.8 pound protein and about 1100 calories of energy, and in the case of peanuts 0.28 pound protein and about 2800 calories, while expended for cheese it would provide 0.17 pound protein and about 1300 calories, and for flour 0.46 pound protein, as well as the large amount of energy noted above.

Although some of the dietaries showed that it is quite possible to obtain the needed protein and energy from a fruitarian diet, the majority of those studied fell below the tentative dietary standards. It is hardly just to ascribe this entirely to the form of diet since the same people might have consumed no larger quantities of nutrients on an ordinary mixed diet. The nutritive value of the fruitarian diet is perhaps most clearly shown in the case of one of these subjects, a university student, who, though entirely unaccustomed to such fare, gradually changed from an ordinary mixed diet to one of fruits and nuts without apparent loss of strength or health. He was then able for the eight days of the experiment to carry on his usual college duties and for a part of the time also performed heavy physical work on an exclusive fruitarian diet without material loss of weight.

The cost of the fruitarian diet per person per day varied from 18 to 46 cents, values which compare favorably with those found for an ordinary mixed diet.

Although it is undoubtedly advisable to wait until more data have been gathered before making definite statements regarding the digestibility of different fruits and nuts, enough work has been done to show that they are quite thoroughly digested and have a much higher nutritive value than is popularly attributed to them. In view of this it is certainly an error to consider nuts merely as an accessory to an already heavy meal and to regard fruit merely as something of value for its pleasant flavor or for its hygienic or medicinal virtues.

As shown by their composition and digestibility, both fruit and nuts can be favorably compared with other and more common foods. As sources of carbohydrates, fruits at ordinary prices are not expensive, and, as sources of protein and fat, nuts at usual prices are reasonable foods.

In the investigations at the University of California the question of the wholesomeness of a long-continued diet of fruit and nuts is not taken up. The agreement of one food or another with any person is frequently more or less a matter of personal idiosyncrasy; but it seems fair to say that those with whom nuts and fruits agree can, if they desire, readily secure a considerable part of their nutritive material from such sources.

POULTRY YARD.

Squab Raising in San Jose.

A novel employment for women is that of raising pigeons, and within the San Jose city limits on South First street is one of the most successful pigeon lofts in that section. The San Jose Mercury says that it is owned and managed exclusively by Miss M. C. Harris, who is also local manager for the Postal Telegraph Co., and is given the best of care and attention.

This pigeon loft is composed of numerous separate lofts, made of wire netting, which separate the several varieties of pigeons, and cover a great deal of space. Each loft has its house filled with nests, and

the 3000 pigeons that find their homes here are as fine looking specimens as can be found.

They are fed night and morning, Miss Harris herself apportioning their quantity of wheat and Egyptian corn.

There are about thirteen varieties of the fancy breeds in Miss Harris' lofts, all of the best known varieties, including hen pigeons, runts, Jacobins, swallows, pouters, owls, tumblers, rollers, homers, in all colors, trumpeters, archangels, magpies and nuns.

These names are all distinctive, and are suggested by the appearance of the different varieties, except in the case of the runts, or by some characteristic. The runts, instead of being undersized, are very large birds, measuring from 38 to 40 inches from tip to tip of their wings. Their feathers are beautifully iridescent and they are very handsome.

The hen pigeons are like nothing so much as tiny hens, in pure black and white. They carry themselves exactly as do hens of the chicken yard, and are as trim as can be.

The owls, the swallows and the magpies are wonderfully like their namesakes. The pouters, tumblers and rollers perform their curious acrobatic feats, furnishing an exceedingly interesting entertainment, and the stately Jacobins wear their ruffs with grace and dignity.

The crosses from these breeds furnish the squabs that are in such constant market demand. The hens lay two eggs about every forty days. About eighteen days are required to hatch them, and in from three weeks to twenty-five days the squabs are ready for market.

The male bird assists in building the nest and shares the responsibility of his mate in sitting on the eggs. Every morning the female leaves the nest and the male bird takes her place for an hour or two while she stretches her wings.

The squabs bring a good price, and Miss Harris says the San Francisco market calls for every one she can send.

It is two and a half years since Miss Harris went into this business, beginning on a small scale, and gradually increasing it until she has reached its present goodly proportions. She finds the work connected with it agreeable and not too arduous, although it requires constant attention.

About Squab Raising.

The details of squab raising are explained in a recent bulletin of the Department of Agriculture, written by William E. Rice, a practical New Jersey poultry breeder, who has had twenty-five years' experience with poultry and ten years' with pigeons. He truthfully says: "There is money in this industry if intelligently managed, but the breeder must know how to begin and how to proceed after a beginning has been made. I have found some very rough places along the road to success."

That there is money in squab raising is shown by the fact that at one time Mr. Rice disposed of his flock and buildings. Five years ago he started again with a single pair of birds, buying a few from time to time until a small but well-selected flock was obtained. This flock has paid all expenses of every kind, the bills for erecting two new houses at a cost of \$250 each and the wages of a man two days in each week to dress squabs and clean out the houses. Today he has a flock of 600 pairs of good birds in healthy condition and yielding a fair weekly income.

The most important thing in starting right is the site, which must be in a spot well drained, facing east or south, sheltered from prevailing winds and not exposed to extremes of heat, cold or wind. A shallow stream of pure running water for drinking and bathing is desirable.

The house is as important as the site. It should be built in sections for no more than 250 pairs, and not more than fifty pairs in each section, designed so as to be well ventilated, easily kept clean, secure from attacks of mice, rats and other animals, and not subject to draughts of air. Mr. Rice's houses are 40 feet long, 12 feet wide, 9 feet to peak of roof. Nest boxes are made 12 inches wide, 9 inches high and 12 inches long. A covered yard or fly 32 feet long and 8 feet high is attached to the house.

**DESIRABLE VARIETIES FOR SQUABS.**—The Homer is recommended as the best variety of pigeons to keep for squab raising. These birds are large and healthy, are good workers, the best of feeders, of quiet disposition when properly mated and their eggs are generally fertile. The Runt, which is the giant among pigeons, is highly spoken of by some breeders because the squabs are so large, but they are not prolific, and it takes an extra good pair to yield four pairs squabs per year. Dragoons probably rank next to Homers, and are particularly useful in crossing with Homers. Straight Dragoons are about one week longer in maturing. The Duchesse variety is preferred by some breeders, but they are not as good feeders as Homers and have feathered legs, which is objectionable in squabs.

A variety of feed is needed, for wheat and cracked corn if long continued will fail to produce the best squabs. In addition to these, Canada peas, millet, Kafir corn and hemp are needed. Boxes should be



provided of fine salt, cracked oyster shells and ground charcoal, to which the pigeons can have free access. Birds should be fed twice a day, morning and afternoon, at regular hours, and it is important that one person always do the feeding alone. Pure water should also be provided at all times.

As the old pigeons feed the squabs on a special feed called pigeon milk, which they secrete, it is unnecessary to feed the young before they leave the nest. When feed is at prevailing prices, it costs from 50 to 60 cents per year to feed each full-grown pigeon. The houses should be whitewashed at least once a year and cleaned once a week. The flies should also be cleaned four to six times a year.

Squabs are killed by bleeding in the mouth and are hung up by the feet to allow bleeding out. They are picked dry, then put into a tub of cold water, to take out the animal heat and make the birds more firm and plump. An expert picker can kill and rough pick twenty squabs an hour, or completely dress twelve to fifteen. The feet and mouth must be cleaned of all filth and blood. After drying they are packed in a basket or box with ice and sent to market. In one year Mr. Rice produced from 425 pairs of birds 4400 squabs for market.

## VITICULTURE.

### Fermentation of White Grapes.

W. J. Laferriere of Santa Cruz has prepared an article for the Santa Cruz Sentinel, which is widely interesting: There are several methods of fermenting white grapes, each one producing a different kind of wine, viz., dry, mellow, sparkling and sweet. I will only speak of the fermentation of the dry white wine.

The dry is a wine of which the alcoholic fermentation has been complete; that is, all the sugar contained in the must has been transformed into alcohol. It is mostly made of grapes containing from 20% to 24% of sugar.

The two methods of fermentation generally employed consist, 1st, in crushing without stemming the grapes into a large tank, and letting the must run into another open tank or into puncheons, in which it always stays until the fermentation is over, and very often until winter, when it is then racked off for the first time; or, 2nd, the must and pomace are dumped into a large tank, where they are allowed to ferment together by the "go as you please" process for three or four days, and then the must is drawn off into another tank or puncheon, and allowed to ferment there slowly or to "stick," and this is mostly the case.

Wine thus made is seldom fair, and, as white wine is not generally sold as readily as red wine, it is sold at market price only when the small production is not in proportion with the demand. What buyers want is a wine naturally cool, smooth and full, with a fine taste and "bouquet," and of a pure white or very light greenish color.

To possess such qualities the fermentation of white wine needs special cares, which are still more necessary when the wine maker uses in its making prolific and common varieties instead of fine ones.

The first and indispensable rule is to ferment the must in the best conditions of cleanliness; consequently the work must be quickly done, and the juice left in contact with the pomace as little time as possible. The grapes are carried as rapidly as possible to the winery, and crushed and stemmed immediately.

The stemming is very important, because it not only eliminates the stems and produces a whiter and smoother wine, but it also rejects with the stems all the leaves, rotten, dry or muddy berries, and decreases to a great extent the albuminous matters held in suspension in the must. All this makes the clarification of the wine much easier and quicker. Besides, the aeration

produced by the quick rotation of the stemmer makes the fermentation more rapid and complete, and the bad germs contained in the albuminous matters, or those that follow them, are also eliminated.

In the meantime, the juice and pomace run into a large and flat tank, which has been previously divided in three parts by two vertical, perforated partitions or "cloas." The pomace and juice fall between the two partitions in the center of the tank, and the juice runs out as rapidly as the grapes are crushed through the faucets placed in each side and at the bottom of the tank. But the juice in running out takes with it all the dust, mud, insects, etc., that were on the grapes before the operation; therefore, the first work of cleanliness is to eliminate all these impurities. It is easy and mechanical. The juice that runs out is stored in another large, flat and double headed or tightly covered tank, and, in the meantime, the pomace is pressed quickly and its juice mixed with the first one. It is then allowed to stay undisturbed for six to twelve hours, that is, until the first sign of fermentation is noticeable.

During that time the juice purifies itself of all its heavy impurities, which are precipitated to the bottom of the tank, while those lighter than the juice come up to its surface in the appearance of a brown scum. If the tank is only covered, this scum is skimmed out and the must drawn off as quickly as possible, by placing a faucet at 3 to 4 inches from the bottom of the tank; if the tank is a double-header, the must is simply drawn off into puncheons and barrels until the scum begins to come out; then the lees and scum are dumped into the "wash tank." When this operation is not done, it is evident that all kinds of bad ferments are mixed with the must, and that they prevent more or less the action of the alcoholic ferment. In fact, all that is not an elliptic yeast is detrimental and should be eliminated. Now the barrels and puncheons are filled up to four-fifths of their capacity, to prevent wasting by the bung hole during the violent fermentation; then a small sandbag or perforated plug, filled with loose cotton, shuts the bung hole, or, better still, a 1/2-inch hose, 18 inches long, having one end tight inside of the perforated plug and the other end dipped into a small can containing 3 inches of water, will only let the gas escape.

The rules of fermentation of white grapes are exactly the same as for red grapes.

As soon as the fermentation is over the wine is racked off into clean puncheons and barrels, which are filled up to the bung, and kept perfectly tight for a few days by a plug filled with sterilized cotton, or by the little hose already mentioned. Three days later they are filled again, and, if the fermentation has completely ceased, they are tightly plugged with common plugs.

White wines thus made will always keep, and sell at a premium, thanks to their perfect fermentation and high qualities.

### Mr. Hoops Talks Further About His Discovery.

TO THE EDITOR:—In regard to Prof. Pierce's announcement suggesting the Lenoir as a possible grafting stock, resistant against the California vine disease, I shall make the following comments: The use of resistants against this disease does not fill the bill, as we need vinifera tops on them in California, although it ameliorates the trouble. Besides, it does not save the existing vineyards from premature death. The Riparian Gloire de Montpelier and the Rupestris St. George being stronger growers than the other Riparias and Rupestris does not prove that they are less subject to attack. To the contrary, it can be generally observed, where the disease has made its appearance, that the most vigorous vines are the first attacked. So I believe I can say with impunity that the two vines mentioned will succumb to the disease just as quickly as the old Riparia and Rupestris vineyards did.

A good many vineyards in different

parts of California perished long before the existence of phylloxera was known, and when the insect was discovered—a good many years afterwards—it was ascribed to its presence. But we might just as well say that the California vine disease killed them, because, I think, there always have been people in California intelligent enough to find phylloxera if they were present.

As soon as the true character of the disease is known, its control will be an easy matter through preventives. But as long as this is not understood it will be like feeling one's way in the dark—one may find it, but also one may not. It would take generations to come, after millions of dollars have been lost in vineyard investments, to find the way out of the chaos. I further say that, although I have stipulated from two to eight years in my announcement to prove the truth of my assertions, I am quite sure that after one year from date of publication there will not be a single dissenting voice heard in the State. As I have no inclination to go into details in this matter, I shall say this as the essence of my discovery: My case is as clear as the clearest atmosphere that ever covered this glorious country, pointing the way with precision out of the labyrinth of confusion. H. Hoops.

Wrights.

## FRUIT PRESERVATION.

### Apple Cider and Vinegar Making.

The best apples for making cider, says J. R. Patterson of Washington, in the Orange Judd Farmer, are wild apples or common fruit. Lacking these, take mellow apples of pleasant flavor or those half sweet and half sour. The old-fashioned idea was that rotten apples made the best cider. The point was that if the apples were each partly rotten the balance of each was sure of being ripe and mellow. If the small and knottly apples among winter varieties are used for cider, they should be kept in a warm place until ripe.

The apples should be crushed between rolls like sugar cane to insure breaking all the cells. After being crushed the pomace should be allowed to stand in a large, shallow vat and stirred with a wooden shovel till it has all oxidized or turned brown. This will insure the best flavor and color, while the acids will have an opportunity to act on the starch and bring out all the sugar in the pomace. Having all turned brown, the pomace should be laid up in a cheese.

Whatever character of press is used—and my preference among the hand presses is for the knuckle joint—the main essential is to alternate layers of pomace with layers of retaining material. The best for hand presses is straw, with a crib of notched boards around the outside of the cheese. Put 1/2 inch straw in the bottom, then 3 inches pomace spread evenly, then 1 inch straw and 4 inches pomace, another inch of straw and more pomace, putting on crib boards on the sides and ends until the press is full. Put on the follower and begin pressing.

If the pomace has turned brown before laying up, there is nothing to gain by slow work in pressing or in barreling the cider. Cover the bungholes of your barrels with a piece of netting to insure freedom from insects while fermenting. Apples, cider or pomace should not be handled or come in contact with iron or steel unless it is coated with agate, as the acid turns the iron black, which imparts a bad color and flavor to both cider and vinegar.

To make vinegar, fill a cask two-thirds full of worked cider. Let stand in a warm place, where the temperature does not go below freezing, and sometimes gets up to 70° or more, until the cider gets sour and hard. A small piece of mother should then be put in each cask and allowed to stand for six months in a warm temperature, when it should be good vinegar of fine flavor and color. Of course, there are ways of hurrying the process of vinegar mak-

ing, but it is at a sacrifice of quality and appearance.

Once made, the vinegar should be drawn from the casks into other clean casks and bunged up tight to prevent evaporation, until wanted for market. If a farmer lives near a town a trade can readily be worked up in bottled vinegar. Bottled vinegar should be put up in pints and quarts and sold at 5 and 10 cents each. If sold to the trade, put your own label on it, so that if a demand is created by the quality you will get the benefit of the popularity of your own goods.

If a farmer wants to make vinegar for his own use in a small way, get two casks and soak one of them in water till wanted. Take all the waste fruit of whatever kind, pulverize it in any way (it can be ground in a meat chopper or beat into pieces in a tub with a pestle), then add some water and squeeze in a cheese or lard press. Wash the residue of fruit after jelly making and save the water. Wash the sauce dishes at the table and save the rinsings of any dish that sugar or syrup has been used in, and put all these in the first cask. And when it is full and well fermented and sour, put in a small piece of mother and let stand till vinegar is made. Then draw off all that is clear and put in the second cask, and fill the first as before. When you begin using the vinegar, and whenever a gallon is drawn, pour in two gallons from the first cask until it is full. Then keep both full as before. If the rinsings of currants, raspberries, grapes, etc., are put in it will give the vinegar a delightful flavor and color.

## FORESTRY.

### Destruction of Cork Forests of Italy.

FROM UNITED STATES CONSUL-GENERAL RICHARD GUENTHER, Frankfurt, Germany.

The cork industry, which is quite an important one, will receive fresh impetus, a new process having been discovered by which large pieces can be made out of small ones, so that cork waste can be utilized in large quantities. This is all the more important as the price of cork increases steadily, both on account of the growing demand and the lessened supply of the raw material.

Formerly, Italy was a large producer of cork, but a great part of the splendid cork-oak forests has already been destroyed. In some Provinces—as, for instance, in Calabria—the trees have been felled and used for charcoal making; in other Provinces they have been cut down on account of their high potash contents.

Larger forests of cork-oak trees are still existing in Spain, Portugal, France, Algeria and Tunis. None are found in Asia Minor, and only rarely in Greece and European Turkey, although the climates seem to be favorable for their growth. The area covered by these forests is estimated at 300,000 hectares (741,300 acres) in Portugal, 280,000 hectares (617,750 acres) in Spain, 280,000 hectares (691,880 acres) in Algeria, and only 80,000 hectares (197,750 acres) remain in Italy.

While Spain still furnishes 32,800 tons of cork annually, the production of Italy has decreased to 4000 tons. The value of the Spanish exports of cork amounts to \$6,000,000 per year, against less than \$250,000 for Italy. Only Sicily and Sardinia are still producing cork to any considerable extent in Italy, while the former great oak forests of Calabria are almost totally destroyed. It seems incomprehensible that this destruction has been permitted. The trees easily reach an age of 200 years. They yield cork in their thirtieth year, and continue to do so every seven years. Seventy-five years ago the English demand for cork was supplied exclusively from Italy. The destruction of the remaining forests goes on uninterruptedly, and nobody seems to try to prevent it or to plant new forests, in spite of the fact that Italy possesses the most favorable climate and soil for the cork oak, the most favorable conditions for its growth being found in the volcanic soil of the peninsula.



## Agricultural Review.

### Alameda.

**HEAVY SALES OF SPRING LAMBS.**—Livermore Herald: Eugene Harrington of Taaffe & Co. and representatives of the Western Meat Co. and Miller & Lux were in town Sunday for the purpose of buying last spring's lambs. They purchased between 5000 and 6000 lambs during the day from P. Connolly, Mrs. M. Mulquency, James G. Kelly and John C. Kelly. The prices paid ranged from \$2.90 to \$3 a head. The sheep are now on pasture on the San Joaquin river bottoms near Byron and Bethany and the shipments will be made from the latter point.

**PROFIT ON COWS.**—Pleasanton Times: Mr. Parnham delivered to the Santa Rita creamery in thirty-one days 1674 pounds of milk, which tested 3.9 butter fat. This quantity was produced from two cows, for one of which it was the first calf. He also fed two calves for two weeks of that time with milk from the same cows. His receipts from the creamery for this milk amounted to \$17.65, or nearly \$9 for each cow. It is not possible to get at the exact cost of feeding the animals during this period, but it is safe to say the cost was nominal, as they were allowed to run on the stubble and were fed a small quantity of hay and a couple of sugar beets morning and evening.

### Butte.

**ADOBE FARMERS BUSY.**—Gridley Herald: Farmers on the adobe lands west of Gridley are harrowing their lands preparatory to seeding. The farmers on these lands are of two minds concerning the matter of the proper time to sow grain. Some prefer to sow "in the dry," while others think it better to wait until a rain has softened the land somewhat. As the summer-fallowed lands are somewhat rough this year, there will probably be a good many who will wait for the rains. Some years ago those who waited for the rains were prevented from sowing at all by the continuous wet weather. The timbered lands in the immediate vicinity will not be sown until later, for the farmers on these lands do not fear the rain as do those on the adobe, the higher ground drying off quicker and working easier.

### Fresno.

**BIG RUN ON WINE GRAPES.**—Sanger Herald: The directors of the Sanger Wine Association feel highly elated over their success in securing a much larger quantity of black wine grapes than they had figured on, the total amount crushed to date being nearly 400 tons, besides 100 tons of first crop Muscats and other mixed varieties. Since starting up on Sept. 15th, the local winery has drawn off 100,000 gallons of Zinfandel wine from the concrete fermenting tanks and stored it in the redwood tanks, so that more than one-half of the entire tankage of this winery is already filled.

**PROFITABLE RETURNS.**—Reedley Exponent: C. O. Minkler, who has thirty acres of land near the Carmelita vineyard, has twelve acres of it planted to Zinfandel vines, 3-year-old from cutting. From this twelve acres he has this season picked and delivered 76½ tons of grapes to the Reedley winery and he says he has lots left for hog feed. Mr. Minkler was offered \$200 per acre for his place before he picked his crop, but now he says he would not take \$10,000 for it.

### Glenn.

**SHEARING GOATS.**—Willows Review: A. Conklin, a prominent farmer of the Newfave country, assisted his brothers, Lafayette and G. W. Conklin, in bringing their band of thoroughbred Angora goats out of the mountains last week. The shearing process was begun Monday, the clippers being run by a gasoline engine.

### Humboldt.

**STORM DAMAGES APPLES.**—Upper Mattole correspondence Eureka Standard: From 7 A. M. on Friday, the 9th, to 7 A. M. Saturday, the 10th, 4.35 inches of rain fell here. The precipitation for October to 7 A. M. of the 11th is 7.85 inches. The average for the entire month of October for seventeen years has been between 4 and 5 inches. The rain has been a very warm one and the grass has a fine start now—it being so warm early it almost insures an excellent coming season for stock. The storm was accompanied by heavy southeast winds and destroyed hundreds of boxes of apples in this valley. There is, however, quite a quantity left on the trees and another large quantity will go to Eureka. Prices realized on the last lot proved that it is possible to haul out our fine red apples. But large quantities of light colored apples are produced here that will not pay to haul, though the quality is excellent.

### Kern.

**TWENTY-ACRE TRACT BRINGS GOOD LIVING.**—Bakersfield Echo: William

Upton, in Virginia colony, purchased the twenty-acre tract where he now lives about ten years ago, making only a small payment at the time. He has finished paying for his place, built a comfortable and substantial dwelling, besides improving his little farm in many ways, and has just bought another ten acres, adjoining the original twenty, paying cash for the same. Mr. Upton has a few berries on his place, but alfalfa has been his main dependence.

### Kings.

**CORN AND SUNFLOWERS.**—Hanford Journal: Among the striking things to be found in the exhibit from Kings county for the St. Louis Exposition is a sunflower measuring 53 inches in circumference, or almost 18 inches across. There are also a number of ears of large field corn bearing this label: "This corn was grown on ground that produced four tons of hay to the acre the present year. The corn crop will yield forty to fifty bushels to the acre."

### Los Angeles.

**ORANGES NEAR PASADENA.**—Star: Harry Allen has furnished the Board of Trade with some interesting data. The figures apply to his orange crop from the ten acres comprised in Allendale, south of Pasadena. In 1900-01 there were shipped 3800 boxes, which yielded \$2632 net on the trees. In 1901-02 the yield was 2232 boxes and \$2500. Last season it was 2800 boxes and \$2200. This coming season it is estimated that 4000 boxes will be produced.

**HONEY PRICES.**—The Los Angeles Bee Keepers' Association has fixed a price of 5 cents a pound on light amber extracted honey, to hold for the next thirty days. The bee men of Kern county have formed an association and will affiliate with the central organization.

### Mendocino.

**HOPS DECLINING.**—Ukiah Press: The local hop market has broken. It is reported that some lots have been sold for 21 cents. Twenty-four cents was offered two weeks ago but found no takers. The hop grower is in a peculiar position, as he is compelled to market his crop as soon as possible.

### Orange.

**HEAVY OLIVE CROP.**—Santa Ana Blade: The olive crop of Orange county is heavier this season than for years and the fruit is of excellent quality.

### San Bernardino.

**FUMIGATION NOT DELETERIOUS.**—Times-Index: The county will not have to defend itself against any allegation growing out of the fumigation of the orange trees in the western sections. Professors Cook and Sumner completed a thorough investigation of the orchards reported to have been damaged by fumigation, and state that there is not the first evidence of the trees or fruit having suffered the least as a result of gassing. Both gentlemen put their decision in this way: "If we were to have our groves treated to fumigation this year we would want it done as nearly like these orchards about Ontario as possible." It appears that the damage to the fruit, which some growers have thought came from fumigation, really was the result of a pest, and that for two years at least this pest has been active, leaving the fruit spotted.

**ORANGE CROP WILL BE LARGE.**—Sun: The recent warm days and cool nights have been fine for maturing the growing oranges and will also offset the rain and cold weather of the latter part of last month. The coming season's output will exceed any of former years, as the increased acreage that will come into bearing this year will be considerable. All the orchards are showing up well and the recent north wind failed to blow off any fruit. The estimate for the coming season for the three Highlands is about 1000 cars—an increase of about 200 cars over last year.

**A GRAPE VINE.**—Redlands Facts: Among other things in the Board of Trade building is a grape vine 25 feet in length, contributed by A. E. Cole of Colton avenue. The vine was cut from the vineyard at Mr. Cole's place and represents its growth since last March. At its largest diameter it measures nearly an inch, and, with its several branches, would measure about 45 feet in length. The vine is of the Rose Peru variety. Mr. Cole says he has raised vines which measured 42 feet in length. Mr. Cole was born here forty-two years ago. He has never been out of the State, but intends going to the World's Fair at St. Louis.

### San Joaquin.

**BIG TOKAY CLUSTER.**—B. F. Pearson, who came to Lodi last May and paid \$5000 for the Williams place, consisting of ten acres, exhibits a large bunch of Tokays weighing 7½ pounds. Mr. Pearson does not irrigate, but a good method of cultivation is carried out. There are

eight acres of grapes in the vineyard, and to date 1517 crates have been shipped, besides about eight tons of wine grapes. The owner is highly pleased with his investment, and states that he would not sell for \$7000.

**ALMONDS SELLING.**—Lodi Herald: Almonds are now being marketed, J. W. Dougherty having disposed of his crop at a price between 8½ and 10 cents, several thousand pounds being turned over at this price. Other growers are also selling at about these prices, although a few are holding for a raise.

### Santa Clara.

**VITICULTURISTS AND THE WINE TRUST.**—San Jose Mercury: At the Larnard vineyard, near Gilroy, known as the old Angney place, there are about 100 tons of choice wine grapes, including Materos, Zinfandel and other select varieties. Tracy Larnard had counted on at least \$20 a ton early in the season. He received an offer of \$16 a ton from John Corotto, of San Jose, and it was accepted. Corotto then withdrew the offer, giving the excuse that the Wine Association was only paying \$15. Mr. Larnard then made arrangements with the Solis Winery Co. to have his grapes converted into wine at the company's winery in the Uvas district and placed in cooage. Subsequently Corotto said he would take the grapes at \$16, but this offer came too late. Mr. Larnard figures that by converting his grapes into wine and holding it that he will make at least 50% more than had he sold at trust prices. The wine grapes from the Glen ranch were sold this year through the San Francisco office and are being shipped to a winery at Los Gatos. It is reported that the price secured was \$16 a ton on board the cars.

### Santa Cruz.

**FRUIT NOTES.**—Watsonville Pajaronian: The quality of Pajaro valley apples is fully up to the standard this season. The crop will be much larger than that of 1902.—The green leaf aphid has proved troublesome in some of the orchards of this valley during the past summer.—Pajaro valley apples are beginning to arrive in the European markets, and are bringing good prices.—Tests have proved that hydrocyanic acid gas will destroy codlin moth eggs on apples.—The local packing houses are doing an immense business these days and night shifts are the order. Some of the packing houses employ over 100 people.

### Siskiyou.

**SUPERVISORS SELECT STOCK INSPECTOR.**—Sacramento Bee: A special meeting of the Board of Supervisors was held last Wednesday for the purpose of appointing a Stock Inspector, so he could go to Montague and inspect a large band of sheep that were being held there. J. B. McCullough, of Reno, Nevada, arrived in Montague several days previous with a band of 5000 sheep and wanted to ship them to a point near Stockton, where he could get winter pasturage for them. The last Legislature passed a law calling for the appointment of stock inspectors in every county, and demanding that all stock be inspected and pronounced free from infectious diseases and a certificate to that effect be furnished the owner. As Mr. McCullough could not furnish the certificate to show that they had been examined, the Southern Pacific Co. refused to transport the sheep. Siskiyou county had not made an appointment yet and Mr. McCullough tried to get the State Veterinarian to make the examination, but failing in this, he finally appealed his case to the Board of Supervisors, and they held the special meeting and made the appointment to enable him to ship his stock. W. T. Laird of Yreka received the appointment. The compensation is \$4 per day and is paid by the owner of the stock inspected.

### Solano.

**INDUCEMENT TO GROW TOMATOES.**—Dixon Tribune: Coloman Canning Company is anxious to interest the people of this community in tomato growing. The firm has been packing tomatoes from other counties to fill their orders, but none of the fruit equals the tomatoes grown in this section. F. W. Palmer has been supplying the cannery with several tons a week and the difference between his product and the imported article is altogether too great for comparison. Coloman Canning Company is willing to make the matter of tomato growing an object to all who will make the experiment, and will enter into contracts agreeing to pay \$8 per ton for all that can be produced here next season. Mr. Palmer estimates that his land is producing this year anywhere from twenty to twenty-five tons to the acre, and thinks the yield will go to thirty tons with the proper attention and cultivation.

**CURS WORSE THAN WORTHLESS.**—Sheep-killing dogs have been depredating

some of the flocks of sheep hereabouts. Ralph Udell suffered the loss of twenty head one day last week and J. H. Rice lost a number by the bloodthirstiness of neighborhood dogs.

### Sonoma.

**POULTRYMEN MEET.**—Santa Rosa Democrat: The first meeting of the newly organized Poultrymen's Co-operative Association was held in Santa Rosa last Wednesday. Addresses were made by President Gillett, E. F. Emery, H. Murray, W. J. Curtis and others. An important action taken at this meeting was the appointment of H. Murray as the organizer of the association in the districts desiring to affiliate with the parent society. The principal object of the association is to sell the products of the poultry ranches to the best advantage.

**MORE PRUNES GOING ABROAD.**—Orders have been pouring in and a number of carloads of the best prunes ever sent abroad from California have crossed the continent and are en route across the continent to delight the palates of our foreign brothers and sisters in far away climes. The M. L. McDonald Jr. Co. and the Merritt Fruit Co. are sending carloads of prunes to France, Holland and Belgium. The home market in this country has not applied for any shipments so far. At the packing houses a rushing business is being done and prunes are being forwarded as fast as cars can be provided. The demand for Sonoma county prunes was never better.

**HOP MARKET QUIET.**—The hop market has been a little quiet the past week with only a few sales reported. Last week dealers were freely offering 25c for Sonomas; this week 22½c has been paid, and one sale reported at 21c. The report reached here last night from New York that New York dealers are paying growers 30c for the State's crop, with the market firmer, and 22½c was offered for choice Sonomas. The growers contend that they will realize about 25c as soon as the samples reach the English market.

**CLOVERDALE TOBACCO.**—Reveille: In the monthly report of the County Horticultural Commissioners filed with the Board of Supervisors reference is made to the growth of the tobacco industry. The report says: We are pleased to call attention to the cultivation of tobacco in the northern section of the county. This year there is nearly 100 acres of what promises to be a very excellent quality of tobacco in the vicinity of Cloverdale.

### Tehama.

**LARGE THRESHING MACHINE.**—Red Bluff News: What is claimed to be the largest threshing machine in the world is now in operation on Rio island, threshing beans. It is a 70-foot header, weighs over thirty-four tons, and is a curiosity to the people of that and the neighboring islands. The machine moves over the field at a speed of 3 miles an hour, covers 100 acres a day and threshes from 1600 to 2000 bags of beans per day. It takes twenty-five men to operate it.

**CATTLE MEN WANT RAIN.**—Cattlemen all over the county would like to see a good heavy rain, followed by moderately warm weather, in order that the grass might start. The rain did not last long enough to bring about this result, except on rich land.

### Tulare.

**FINE ORANGE GROVE SOLD.**—Lindsay Gazette: R. E. W. Besant has sold his orange grove property, consisting of twenty-nine acres, all improved with orange trees—of which the largest portion are in bearing—and buildings, teams and orchard implements, etc., to Launcelot S. White, who arrived here from England last spring. The grove is said to have brought over \$750 per acre, and the price is considered reasonable, the property being one of the best in the district.

**TALKING ABOUT VELVET.**—Orosi Offer: With a good fruit crop sold at fair prices, and a raisin crop that will bring our vineyardists from \$150 to \$200 per acre, our orchardists and vineyardists should be "on velvet."

### Ventura.

**SUGAR BEET RETURNS.**—Santa Paula Chronicle: C. P. Churchill reports that the following six ranchers contributed beets to the shipping point at Haines' spur: H. Hall, W. J. Heard, F. P. McDivitt, M. H. Anderson, Mr. Richart and the Horse & Cattle Co. The exact weight of the beets shipped is 9,988,670 pounds. They filled 165 cars, consisting of 1274 wagon loads. The average sugar yield as returned by the factory is somewhat more than 16%. The average value of the beets is about \$4.75 per ton, which will produce to these six ranchers approximately \$25,000. The acreage from which these beets were produced is estimated at 285, which makes an average return per acre of about \$88.



## THE HOME CIRCLE

### Harvest Time at Home.

Somehow, when business has a lull about this time of year, My thoughts take their vacation back among the scenes once dear, I stray about the harvest fields where long and long ago I watched the cereal ocean in its golden ripples flow. While now and then upon some blade a tired reaper bore, The sunbeams flashed and then went out like thoughts recalled no more.

As faint as falling echoes of a signal far at sea, The clink of scythes and whetlock come in rhythmic harmony; Among the brooding hills near by, in evening shadows dim, One would not start to catch a glimpse of winging seraphim; For sweet the ways with tinkling bells where browsing cattle roam, And all nature hints of heaven in harvest time at home.

How pleasant then the journey home along the country road, Where larkspur blooms beside the fence like knots of lovers glowed— Now listening to the whip-poor-will beyond a darkling field, Or tarrying where the berries tempt—a shower of wine congealed; And long before we reached the gate to hear the watch-dog's bark, And see the distant windows gleam like blossoms of the dark.

\* \* \* \* \* It seems so long since those old years—so long indeed, that I Now wonder that a time could be without a sob or sigh, And yet, enough do I recall to vow that in the end— When the no more and evermore in death's twilight shall blend— It would suffice to know that life beyond the gathering gloam Would really prove as care free as—the harvest time at home.

—Will T. Hale.

### The Other One.

There was a time when I thought the Other One a little fool, but I learned better as the story developed. I owed her acquaintance to my friend and fellow student, Gustav, whom I met less often at the university than outside of it. He was a good-looking, well-bred and agreeable fellow, with only one fault—a tendency to sentimentality. Every few weeks he had a fresh attack, inspired by a new object. I became so accustomed to these visitations that they ceased to alarm me, but in his fifth semester he fell in love, at a ball, with one Kitty, a person unknown to me. From that moment his condition rapidly grew worse. Formerly, he had been only unhappy, but now, at times, he was actually in despair. I should not have minded it so much if he had not had the pleasant habit of inflicting himself upon me when he felt worse.

During six days of good humor I would see nothing of him, but on the seventh he would come, almost in tears, for consolation. I offered him my worst cigars, but at such times he could not tell a Porto Rico from a Vuelta de Abajo, and he kept on coming. "What is the use of friends," he said, "if one cannot go to them for advice?"

Now, when a man comes to me for advice he never comes in vain. As soon as I know what the trouble is I give him the best advice I have, and so I did with Gustav whenever he came. First, I listened calmly to his story—always the same and not even original. Traces of it, I think, have been found in the oldest Hindu literature. It may be called the story of the girl whom one can neither marry nor forget. I heard the Kitty version of it several times. At the conclusion of it I always leaned comfortably back in my chair, inhaled with apparent enjoyment the odor of my vile cigar, and proceeded to analyze the case, coldly, mercilessly, almost cynically, and with a fine contempt of euphemism. Usually I concluded about as follows:

"My dear Gustav, there is only one possible course—"

"Well, what is it?" (impatiently).

"You must either marry her or forget her."

But he would not, or could not, follow this unexceptionable advice, and grew worse weekly.

One day as I was beginning my disquisition he sprang to his feet in great excitement and snarled: "I know what I am about," and made for the door.

I restrained him, and when he had become calmer he explained that he had an appointment and must go. So he went without my advice, and left me much hurt. Such is gratitude!

A few days afterwards I saw him in the street—or rather, I saw a young lady who was so exceedingly pretty that I had no eyes for the gentleman by her side. It was not until I had passed and turned to get another glimpse of the lady that I recognized Gustav, and then only because he turned, called and waved his hand. I had never seen him look so happy. No wonder! The girl with the smile of a child and the eyes of a woman had bewitched me with a glance. Whether he could marry her or not I had no means of knowing, but that he could not forget her became suddenly clear as day. A few days after this I met him again. It was a fine warm summer evening, after a shower, one of those rare, delightful evenings when life seems light as air, when everybody one meets is smiling and apparently strolling for pleasure. But Gustav had on his tragic mask and looked wan and troubled. He greeted me with a melancholy nod, and said: "Come with me." We walked along in silence. From time to time I turned to look into his rueful countenance, and at last I said very decidedly: "Gustav, you are a fool!"

Instead of showing resentment, he merely said, sadly, "What do you know about it?"

"I know this," I replied. "When a man has so charming a sweetheart as you have, and yet goes about with such a face as yours, he is a fool—there is no other word for it."

"Why, do you know Kitty?" he exclaimed.

"I saw her walking with you the other day. She was so lovely that I didn't see you at all. Don't you remember?"

"But that was not Kitty!" he said.

"What? Not Kitty? Then who on earth was it?"

He hesitated; then smiled and replied: "The Other One."

"The Other One?" I echoed.

"That is my name for her," said Gustav. "She was christened Emma."

By this time we had reached the Volksgarten and turned in. As we walked along the crowded path my friend pulled out his watch.

"Quarter past seven," he said. "I have an appointment with her at seven, but let us sit down and have a chat. She can wait."

"You are speaking of the Other One, I suppose," said I, seating myself beside him.

"Obviously. It is one of the most admirable characteristics of the Other One that she can wait. At this moment I am quite sure that she is sitting on the veranda of the restaurant at the other end of the garden, patiently awaiting my coming. As we walk on you will see that I am right. You will find her sitting at one of the little green tables, as near the entrance as possible, in order to catch the first glimpse of my approach, with a plate of ice cream, melted and untasted, before her, and looking with laek-lustre eye in the direction of the Bellaria, whence I shall presently be seen coming, with slow step and weary, listless air, as a man goes to a function where he is sure of being bored."

"You impudent puppy!" I exclaimed. "If she bores you, why do you seek her society?"

"For the sake of equilibrium," he answered calmly. "She is an excellent counterpoise. The Other One is a compensation for the One. If I did not have Emma, how could I endure the intense bliss I enjoy in Kitty's love?"

"Hold on a bit!" I cried, irritably. "I can't keep all this straight. The One, the Other One, Kitty, Emma—they are too many for me. This girl who is waiting over there, is she the

girl you can neither marry nor forget?"

"Most self-evidently not! If she were, do you suppose I would keep her waiting in order to listen to your nonsense? Let me explain; the ease is more typical than you imagine. The girl you can neither marry nor forget is the One. You never think about either marrying or forgetting the Other One. She is the counterpart of the One in many ways. In the first place—in my case—she is actually only twenty, and she looks, while the One, between you and me, is much nearer thirty. They are both pretty, but if I were not in love with the One I should think the Other One the prettier. The Other One is an angel of goodness. She has only one fault, but that is an unpardonable one—she loves me! The One, if she is an angel at all, is a very despotic one; she has many faults, and yet—I love her! The Other One, you see, gives us everything and thanks us for accepting it: The One demands everything and expects us to be grateful for the privilege of giving it. She drives us to despair with her caprices and then the Other One consoles us, without asking why we need consolation. Once, indeed, she said sadly: 'You love another.' 'It is not impossible,' I replied jauntily. She forced back her tears and never mentioned the subject again. I would not advise you to give such an answer to the One. With her there is no jesting. She has the power and she knows it. She insults you and calmly waits for you to come and beg her pardon."

"With the Other One you may do as you will, you cannot shake her off; but the One does with you as she pleases, you cannot leave her. She has poisoned my youth, but I cannot give her up."

"Yesterday I met her for the first time after a serious quarrel—"

And the shameless wretch went on talking about the One while the Other One was waiting for him.

I cut him short and he walked on. Presently he plucked my arm and whispered: "Kitty!"

I looked up and saw dimly in the twilight a lady past the first flush of youth, dressed expensively and in poor taste, looking sharply at my friend. In an instant he was at her side, kissing her hand and that of her mamma, who did not appear particularly pleased. In a few seconds he returned and said in a voice that betrayed a thumping heart: "You must go to Emma and make my excuses. Say—anything you choose."

He darted back to the ladies, and walked off with them, laden with Kitty's jacket and a little parcel of her mamma's.

I found the Other One exactly as he had described. The little green table, the melted ice, the sad eyes on the Bellaria—not a detail was lacking. I felt deep compassion for the poor, young beauty, sitting alone amid the merry throng, on an evening made for love, and dreaming of one who thought not of her.

A handsome young fellow passed close by her table and ogled her, but she did not seem to see him. Then the thought came to me: What an opportunity for me to become the Other One to the Other One! But I knew the attempt would have failed; besides, I was Gustav's friend.

As such I introduced myself, and as I told a tale of relatives arrived unexpectedly, I saw her fine eyes fill with tears.

She thanked me weakly and I hurried away—not too soon, for the first drop hung on her long lashes, ready to fall.

As I said at the beginning, I thought her a little fool, but still I was very sorry for her.

A week later I met her returning with Gustav from an excursion. She had her hat in her hand and heath roses in her brown hair and was radiant with the joy of a whole afternoon spent with her lover.

"I couldn't help it," Gustav explained to me afterward. "To please her I took her up the Kahlenberg, but I was thinking of Kitty all the time."

I met them together occasionally after that. She did not always look so happy as on that day; but, whether merry or sad, it was plain to see that

she took her mood from him who was her all and to whom she was nothing. And when he frowned she looked up to him with loyal, submissive woman's eyes that seemed to say: "You may beat me if you wish."

Suddenly Gustav vanished from his usual haunts. He had begun to study for Kitty's sake—and was working hard for his degrees. About this time I happened to meet Emma alone, and looking like an angel in a decline.

"How is our friend, Gustav?" I asked.

"I don't know," she replied. "I see him very little now."

Not long after this I received a note from Gustav, in Palermo, asking me to send Kitty, on her birthday, some flowers in his name. In a postscript he added that the Italian journey was a desperate attempt to forget her.

A long time elapsed before I saw Gustav again. Once I met Fraulein Kitty in the Prater. Two years had passed since our first meeting in the Volksgarten, and they had not made her younger or more beautiful.

This time she was accompanied, not by her mamma, but by a gentleman with whom she was conversing familiarly.

This was very sad, but, after all, it was no business of mine, and I resolved to trouble myself no further about Gustav's love affairs. But the next day I received a letter from Berlin in which he announced his irrevocable determination to shoot himself, for the love of Kitty. Of Emma, not a word. A month later I heard that he had returned to Vienna. Inferring that he had not yet shot himself, I went to see him. The door was opened by—Emma! She was prettier than ever, and looked supremely happy. I smiled, but kept my thoughts to myself. Then Gustav appeared, looking happier than I had ever seen him before. He embraced me, kissed me on both cheeks, and introduced the blushing Emma as:

"My wife."

He said this quite simply and naturally, and seemed surprised that I could not at once find words to reply.

The situation was relieved by Frau Emma discreetly leaving the room. Gustav laughed and said: "We met again in Berlin, you know."

"And so you married her—the Other One!"

Gustav is addicted to epigrams. "My dear fellow," he said, "we all marry the Other One."

At that instant Emma returned. She must have heard the last words, but she gave no sign of it.

Smiling, she filled three little glasses with brown Madeira, raised her glass and said: "Long live Fraulein Kitty!"

"Ah, she must be very dead if you can drink her health," said I.

Emma's silvery laugh, in which her husband joined, convinced me that Kitty was indeed quite dead.

I looked hard at Emma and she laughed again. Then suddenly I understood her, and her long, silent but persistent struggle, and I appreciated the greatness of her love and her victory.

And with it I realized that the Other One was no fool.—From the German of Raoul Auernheimer, by Lawrence B. Fletcher.

### Eating Before Sleeping.

A short time since physicians held the eating of food immediately before retiring almost a crime. The old theory is quite exploded. One medical journal, in commenting on the subject recently, said that while it is not good, as a matter of fact, to go to bed with the stomach so loaded that the undigested food will render one restless, still, something of a light, palatable nature in the stomach is one of the best aids to quietude and rest. The process of digestion goes on in sleep with as much regularity as when one is taking violent exercise to aid it, and so something in the stomach is very desirable for the night's rest. Some physicians have declared, indeed, that a good deal of the prevalent insomnia is the result of an unconscious craving of the stomach for food in persons who have been unduly frightened by the opinion that they must not eat before



going to bed, or who have, like many nervous women, been keeping themselves in a state of semi-starvation. Nothing is more agreeable on retiring for the night than to take a bowl of hot broth, like oatmeal gruel, or some good, nourishing soup. It is a positive aid to nervous people, and induces peaceful slumbers. This is especially the case during cold winter nights, when the stomach craves warmth as much as any other part of the body. Even a glass of hot milk is grateful to the palate on such occasions, but a bowl of light, well cooked gruel is better, and during the cold winter months of winter should be the retiring food of every woman who feels, as many do, the need of food at night.

### Sparkling the Mexican Girl.

Only in Moslem countries are women more secluded than in Mexico. One of the prettiest views I have ever had into this inner court of the native life was one of the first. We had been up the hill of Guadalupe and seen the shrine, and were on our way down to the miraculous well by the steps that pass the great stone walls and chanced to admire a little child in care of its sister, a girl of fifteen. The child was playing with a tiny cup of native pottery and insisted that I take it, and while we chatted with them the girl was playing with a poor, cheap locket hung by a bead string around her plump brown throat. She saw that I noticed it, and with the sweetest shyness and adorable pride showed me the picture it contained—just a brown Indian boy in a new sombrero, and when I had looked at it with question in my eyes she said almost in a whisper: "It is my novio."

Novio means lover, and her dark eyes grew large and luminous with the word. It took but little urging to let her pour out eagerly the whole story. She lived in Santa Maria, one of a family of fourteen. He dwelt in Taucubya and was a burro boy. He had seen her at a fiesta and she said she loved him as soon as she looked in his face. She had never seen him since then except once in the street with his burros. The picture he had taken and carried to her with some clipped verses by a tiny muchacho, a boy so little that no one would suspect him of being a love messenger. Just then a woman bearing a jar of blessed water from the well approached, and the girl hid the locket. It was her mother and she was afraid.

There is much said of the picturesque peasantry of Europe, but I doubt if any one country of them all can afford the great variety of dress found among the women of Mexico, and there is none of the many dresses but seems to add to the beauty of the wearer. This beauty is not for long, for they mature early and begin to fade when a woman of the United States would be considered in her prime.

One day as I was walking along the side street in the best residence portion of Merida I saw a bit of paper dangling from the end of a string that led up over a balcony and into a window, the shutter of which was almost entirely closed, only a bare crack being visible. The string jerked just the least bit, causing the paper to bob up and down. I turned as if to cross the street for closer observation. Instantly the paper which I was convinced was a note, was drawn up and I retired to the next corner, where I paused a few moments out of sheer curiosity to see what would happen. The note was lowered again, and soon there came sauntering by a handsome young man in "charro" costume, something unusual in the State. As he passed under the balcony he whipped out a knife, severed the string, put the note in his hat and sauntered on.

Some of the most beautiful women of Mexico are to be found among the Indians of the Tehuantepec Isthmus. There on Sundays one will see hundreds of pretty churchgoers wearing a most extraordinary costume. The skirt is often of satin or silk, heavily lace trimmed sometimes, and with a short-sleeved waist. The headdress is the principal feature. It is a great stiff,

laundered accordion-plaited sort of thing that can look very pretty and can be what the women's word "sloppy" means.

The Ameteas, both men and women, wear white cotton garments on which the embroidery is done in panels either down the front of the woman's skirt or on the tunic the men wear. There is a curious custom among them of lovers exchanging the twigs of certain trees in entire secrecy, except as each new twig is received it is carried to the father or mother or guardian of each of the two and assent is given to the continuance of the exchange till orange blossoms are reached; then it is time for the priest. This pretty method of courtship is dying out, as it is a relic of Indian customs and is discouraged by the priests.

In nearly all parts of the country the lover's process is the same. It is called "playing bear," and is of Spanish extraction. Of course, it is not necessary to play bear in those classes where the young folk are thrown together in the market, the field, the workroom and the highway, but even there a close watch is kept on the girls, and conversation with their adorers is fragmentary.

The beginning of a courtship is usually the sight of each other on some public day, some "fiesta," or when driving in the Pasco. The lover to be beholds a face that causes his heart to tighten, then expand, and though she may have but glanced at him, if he does not know who she is he will follow and ascertain her abode. That night there will be twangling guitars without her window, and one may attempt to sing (few young Mexicans but have fair voices). The next day burning epistles of deathless love arrive, and, possibly, an elder member of the young man's family, and if their respective stations, fortunes and all other things are suitable the young people begin to see each other, with some third person ever present and between them, except in those fond moments when she stands at her window or balcony and her lover is without, but near enough that the slightest whisper of one can be heard by the other, and if the bars are wide lips may meet. So love is made until the wedding day, but, sad to relate, when that day is not long passed the young wife takes her place in the household but little higher than the servants. But she has expected nothing else, and dutifully follows her husband to the door each day and kisses his hand as he extends it.—Galveston News.

### Helps for Young Mothers.

Don't be afraid to use common sense in the care of your baby.

Don't forget that regularity in meal-time is just as necessary for your little one as for yourself.

Don't stuff the baby until nature rebels by an emesis.

Don't expect the baby to be perfectly well unless you feed it on nature's food—mother's milk.

Don't forget that it wants cool water to drink occasionally.

Don't keep the baby in the house one minute that it is possible to have it out of doors. A baby kept out in the air and sunshine will not be cross and irritable.

At night be sure the room is well ventilated. Its susceptibility to sickness is in inverse ratio to the amount of good, pure air you provide for its lungs.

Don't put too many clothes on the baby, and above all, don't inflict it with long clothes. Least of all should this be done during its first few months of life, when it is weaker than at any other time.

Don't fasten its clothes like a vise, and then think it is going to be comfortable. A child can't be happy unless it can move every muscle of its body freely.

Don't bundle up its head to suffocation. Don't cover up its head except in a blast of wind.

Don't be cross and irritable about the baby, and then be surprised that it reflects your mood.

Don't let people outside the family kiss the baby. Never so trample on your child's rights as to make it submit

to an unwelcome caress from any one.

A child has a natural dislike for "showing off," and if you make it acquire a taste for such a proceeding you will have to spank it later for being forward and impudent.

Be calm and self-contained always in the presence of your little one, from its days of earliest babyhood.

### Domestic Hints.

**WALDORF SALAD.**—Take good-sized apples and pare them carefully, and scoop out a good deal of the inside to make a cup; fill the cup with finely chopped celery dressed with a rich mayonnaise, and serve the filled apples on lettuce leaves. The salad would not be good made with a French dressing.

**RICE, CREOLE STYLE.**—Chop fine a white onion and two green peppers, saute with half a cup of raw ham, shredded rather fine, in one-fourth of a cup of butter; cook about ten minutes, then add a cup of blanched rice and three cups of beef broth, simmer twenty minutes, then add four tomatoes, peeled and cut in slices, and one teaspoonful of salt. Cover and finish cooking in the oven or in a double boiler.

**PEACH COBBLER.**—Make a rich pastry or puff paste and line a deep porcelain dish. Fill with peeled and halved peaches, sweetened and slightly stewed, if desired. With ripe peaches, however, this is hardly desirable. Drop in three or four cracked peach pits. Cover with paste and bake in a quick oven. When done, break the top crust lightly with a fork and mix with the peaches. Sprinkle powdered sugar over the top and serve with rich cream.

**TURNIP SOUFFLE.**—A turnip souffle is a very nice dinner dish to serve with lamb. Boil sliced turnip until tender and mash thoroughly. Better still, put them through a fine colander. Return them to the fire with the addition of a roux, made with a tablespoonful each of butter and flour. Season and add a cupful of hot milk. Stir the mixture until it boils. Take from the fire and beat hard, stirring into it gradually two beaten eggs. Pour into a greased porcelain dish and bake in a quick oven. Serve at once, or, like all souffles, it will fall.

**PRESERVED PUMPKIN.**—A very nice preserve is made of the humble pumpkin. The recipe, taken from the Boston Cooking School Magazine, is as follows: Cut the pumpkin into inch cubes, removing the rind. To each pound allow half a pound of sugar and two ounces of whole ginger root. Put the pumpkin, sugar and ginger in alternate layers in a jar, and let them stand three days, when a quantity of syrup will have formed. Pour all into a preserving kettle and boil slowly until the pumpkin looks clear. Store in small jars or glasses, covered with paraffine. This preserve strongly resembles preserved ginger. It may be added to sauces and is very good when served with ice cream or frozen puddings.

### The Instinct to Chew.

Seeing that the maxillary apparatus of man has for long ages past been put to vigorous use, it is not surprising that the need to exercise it should express itself as a powerful instinct. This instinct manifests itself in many and curious ways. During the early months of life the natural functions of feeding at the breast provides the infant's jaws, tongue and lips with all the needed exercise. This bottle-feeding fails to do, and we frequently find bottle-fed children seeking to satisfy the natural instinct by sucking their thumb, fingers or any convenient object to hand.

The teeth are a provision for biting hard foods, but even before they actually appear we find the child seeking to exercise his toothless gums on any hard substance he can lay hold of, and there can be no doubt that exercise of this kind tends to facilitate the eruption of the teeth, a truth, indeed, recognized universally, whether by the primitive mother who strings the tooth of some wild animal round the neck of her infant, or the up-to-date parent

who provides her child with a bejeweled ivory or coral bauble.

When the teeth have erupted the masticatory instinct finds among primitive people abundant satisfaction in the chewing of the coarse, hard foods which constitute their dietary; but among us moderns, subsisting as we do mainly on soft foods, affording but little exercise for the masticatory apparatus, it does not find its proper expression, and thus tends to die out. Nevertheless, it dies a hard death, and long continues to assert itself; witness the tendency of children to bite their pencils and penholders. I have known a child to gnaw through a bone penholder, much in the same way as a carnivorous animal gnaws at a bone.

This instinct to chew for chewing's sake manifests itself all over the world. In our own country not only do children bite pencils and penholders, but they will chew small pieces of india rubber for hours together. The practice of gum chewing, so common among our American cousins, evidently comes down from the far-off times, for the primitive Australians chew several kinds of gum, attributing to them nutrient qualities, and the Patagonians are said to keep their teeth white and clean by chewing matri, a gum which exudes from the incense bush.—The Lancet.

### Hints to Housekeepers.

Onions may be peeled successfully—that is, without causing tears or leaving an odor on the hands—by holding them under a stream from the cold water faucet.

The water in which corned beef is cooked should on no account be thrown away. After the hot corned beef is taken from the table, to be afterward eaten cold, put it in a stone jar and pour the pot liquor over it. Keep the beef in the liquor until the last of it has been eaten. If hash is made use the liquor to moisten it in the spider.

To wax a new floor, use first a good wood "filler," which must be thoroughly rubbed off before it becomes too hard, and then a prepared wax. It is better to purchase this wax, unless you have had a great deal of experience in mixing it. Apply the prepared wax with a thin woolen rag and polish it in with a heavy brush or brick, rubbing the floor across the grain first and with the grain afterward. The wax must be applied in a very thin coat and thoroughly rubbed into the floor. After the floor has been filled and dried, two coats of wax are necessary to finish it.

An alcohol rub at bedtime will go far toward breaking up insomnia. Let the rubber begin with the forehead and temples of the sleepless one, paying particular attention to the spine and neck. Rub the alcohol gently, but firmly, into the body, working gradually down to the feet, and probably the patient will fall asleep before the rubbing is completed. One night, or even one week, of rubbing would not be likely to bring back permanent habits of sound, healthy slumber, but each night there is a gain toward the normal equilibrium of the nerves, and a month of alcohol rubs should put one in a position to do without external helps of any kind.

A tomato salad served in Paris was a variation of stuffed tomato, having lobster meat as a filling. The live lobster is boiled in water, to which are added a gill of vinegar, one onion sliced, a little parsley, two or three cloves and a bay leaf. The cooked meat is cut into dice, mixed with two tablespoonfuls of sliced pickled cucumbers, and a few string beans cooked and cut in small pieces. Firm, not too ripe, tomatoes are selected, the tops sliced off and the center scooped out. Fill the tomatoes with chopped ice while the salad is being prepared. When ready to put together, dress the lobster meat, pickles and beans with mayonnaise, fill the tomato shells, topping each with a little mayonnaise, in which is arranged a lobster claw. Reserve a few string beans whole, which may be dressed with French dressing and used as a garnish around the tomatoes. Cold chicken or ham may be used instead of lobster.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, October 21, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	79 1/2 @ 78 3/4	79 3/4 @ 78 3/4
Thursday	79 1/2 @ 79	79 3/4 @ 78 3/4
Friday	79 1/2 @ 80 1/4	79 3/4 @ 80 1/4
Saturday	80 1/4 @ 81	79 3/4 @ 80 1/4
Monday	80 1/4 @ 80 1/4	80 1/4 @ 78 3/4
Tuesday	81 1/4 @ 80	79 1/2 @ 78 3/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	45 3/4 @ 45 1/4	44 3/4 @ 43 3/4
Thursday	45 3/4 @ 45 3/4	44 3/4 @ 43 3/4
Friday	44 3/4 @ 45 3/4	43 3/4 @ 43 3/4
Saturday	44 3/4 @ 44 3/4	43 3/4 @ 43 3/4
Monday	44 3/4 @ 43 3/4	43 3/4 @ 42 3/4
Tuesday	44 3/4 @ 43 3/4	42 3/4 @ 41 3/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 41 @ 1 40	\$1 40 3/4 @ 1 40 1/2
Friday	1 40 3/4 @ 1 41 1/2	—
Saturday	1 41 @ —	—
Monday	1 41 3/4 @ 1 40 1/2	1 40 1/2 @ 1 40 3/4
Tuesday	1 40 1/2 @ 1 40 1/4	1 40 1/2 @ 1 40 1/4
Wednesday	1 40 1/2 @ 1 40	1 40 1/2 @ 1 40

### Wheat.

The wheat market in this center has been moderately firm the greater part of the current week, but has not been noteworthy for activity, neither shippers nor millers showing disposition to do extensive purchasing at full current figures, and it was the rare exception when they were able to obtain appreciable concessions. There is no great quantity of wheat offering in this market, and as the supply in the interior is little more in the aggregate than will be required for home consumption and seed, it is not surprising that the movement is of a light order. That there will be any great activity experienced locally in the market for this cereal any time the current season does not now appear probable. Small quantities of wheat are coming forward from Oregon and Washington. The arrivals from the north will likely constitute a large portion of the exports of wheat from this port for the cereal year of 1903-04. Ocean freight rates remain low, the latest reported character for wheat being at 11s 3d for such quantity as required for stiffening, prior to the vessel being towed to Port Costa to take barley cargo. The engaged fleet now in port represents a carrying capacity of 65,000 tons, and there are disengaged ships in harbor sufficient to carry 200,000 tons. The vessels now here will probably prove ample for the season's requirements, but there are a large number of deep-sea ships headed this way, good for over 400,000 tons of freight. The bulk of this incoming fleet will be here inside of four months, so there is sure to be an excess of ocean tonnage for at least a year to come. Market for wheat at close was quiet and tended against sellers.

California Milling	\$1 45 @ 1 55
Cal. No. 1 shipping, alongside	1 37 1/2 @ 1 40
Oregon Club	1 37 1/2 @ 1 45

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.41 1/2 @ 1.40.  
May, 1904, delivery, \$1.40 1/2 @ 1.40.  
Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.40 1/2 @ 1.40; May, 1904, at \$1.40 1/2 @ 1.40.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	65 1/2 @ 65 1/2 d	—s-d @ —s-d
Freight rates	—@ 20s	11 1/4 @ 14s
Local market	\$1 25 @ 1 27 1/2	\$1 37 1/2 @ 1 40

### Flour.

Values remain at the same quotable range as for some weeks past, with market moderately firm at prevailing figures. The outward movement lately has been heavy to China, but is expected to soon show decrease in that direction. South American countries have not recently been taking very great quantities. Spot stocks are below the average, and not likely to be of large proportions in the near future.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Fancy brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	3 50 @ 4 00
Washington, Bakers' extra	3 50 @ 4 15

### Barley.

Efforts have been made the past week to depress values, but they have not been attended with noteworthy success. Manipulators succeeded in the speculative market in crowding prices for Dec. feed slightly downward, but it was not possible to effect purchases in the sample market for immediate delivery at any appreciable declines from the figures of preceding week. Ships loading are not meeting with prompt dispatch, and it is quite evident that exporters are not securing bar-

ley as rapidly as they desire. The movement is mostly in the common variety of barley. There is not much Chevalier now offering. Recent inquiry for this description has been mainly on Australian account.

Feed, No. 1 to choice	\$1 15 @ 1 16 1/4
Feed, fair to good	1 12 1/2 @ 1 13 1/4
Brewing, No. 1 to choice	1 17 1/2 @ 1 22 1/2
Chevalier, No. 1 to choice	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair	1 12 1/2 @ 1 32 1/2

### Oats.

Market has been less active than for a week or two preceding, more due to decreased offering than to lack of demand. Arrivals from Oregon and Washington have been comparatively light for this time of year, holders there contending for relatively stiffer prices than have been lately current here. Black oats continue in light supply and for desirable seed qualities high figures are being realized.

White oats, fancy feed	\$1 30 @ 1 32 1/2
White, good to choice	1 25 @ 1 27 1/2
White, poor to fair	1 20 @ 1 22 1/2
Gilling	1 25 @ 1 30
Surprise, good to choice	1 22 1/2 @ 1 32 1/2
Black Russian feed	1 15 @ 1 30
Black for seed	45 @ 1 50
Red, fair to choice	1 15 @ 1 30

### Corn.

Spot stocks are principally Eastern product, and, while not particularly heavy, are in excess of the immediate demand at current values. There are tolerably free offerings of Eastern for forward delivery, but they are not receiving much attention, dealers anticipating an easier market. Small Yellow is scarce, and business in this variety mainly of a retail character.

Large White, good to choice	\$1 30 @ 1 35
Large Yellow	1 35 @ 1 37 1/2
Eastern, in bulk	1 22 1/2 @ 1 37 1/2

### Rye.

Demand is rather slow at the prices asked, but offerings are not heavy and holders are showing no disposition to crowd business at the expense of having to make concessions.

Good to choice, new	\$1 25 @ 1 30
---------------------	---------------

### Buckwheat.

Market lightly stocked. Nothing doing in the way of transfers from first hands, owing to absence of offerings.

Good to choice	\$1 90 @ 2 25
----------------	---------------

### Beans.

A firmer tone has been developed in the local market for Large Whites and Pinks, the Whites being taken mainly on Eastern orders and the Pinks on local speculative account. With the above exceptions, the market has shown no changes for the better. Bayos have been offering rather freely, and, with few immediate orders for this variety, prices have dropped to lower figures than are current on Pinks, while it is well known that Bayos at same price as Pinks are relatively the least profitable to growers, calculating on average cost of production. Limas are being offered at comparatively low figures, mainly from southern coast points of production, supplies being rather heavy and including considerable carry-over stock from previous season.

Pea, fair to good, 100 lbs.	\$3 00 @ 3 25
Small White, good to choice	3 10 @ 3 25
Large White	2 60 @ 2 85
Pinks	2 40 @ 2 65
Bayos, good to choice	2 40 @ 2 65
Reds	2 75 @ 3 00
Limas, good to choice	3 00 @ 3 10
Black-eye Beans	2 60 @ 2 75
Garbanzos, large	2 00 @ 2 25
Garbanzos, small	1 25 @ 1 50

### Dried Peas.

Market is quiet and is not especially favorable to sellers. Millers and dealers are fairly well stocked through recent purchases, and have been obtaining some concessions in their favor from growers anxious to realize.

Green Peas, California	1 90 @ —
Niles Peas	2 30 @ —

### Hops.

The market is quiet and inclining against the selling interest, with demand slow and recent offerings on the increase. The Washington crop is reported to be turning out much better than expected early in the season, and is now estimated at 39,000 bales, with latest prices there ranging from 21 @ 23 1/2c. for fair to choice. The Oregon market is also reported lower, being quoted at 20 @ 24c. for prime to choice and down to 15 @ 17c. for ordinary. Late New York advices by mail quote the situation as follows: "Our market is a sensitive one, and it is being influenced by the varying conditions reported at primary points. The past week there has been further considerable buying in this State, notably in the Madison county district at 30 @ 31c., and for a few special growths 31 1/2 @ 32c. was paid. Most of the demand came from brewers, but exporters made a few purchases, largely on sample orders. Baling has been so slow in the State that only a small part of the crop has been moved as yet, but it is estimated that fully 8000 bales have changed owner-

ship. A good many Oregon and Washington hops have also been sold. Very much of the demand on the Pacific coast has been from Western brewers, some of whom have stocked up heavily. Strictly choice lots, entirely free from mold, are held at 25c. and some business still doing at that, but the other grades are selling at 21 @ 24c., fair quality but somewhat moldy hops going at 23c. Here in New York business has moved along slowly but the light offerings of State hops have made a strong holding at 31 @ 33c. for prime to choice, with some dealers asking more. Pacific coast stock has eased off a little and it would be difficult to interest any class of trade at over 29c. for the best. London cables report a steady demand for choice grades, but the poorer sorts, which comprise so large a part of the English crop, are easy. High prices still prevail in Germany."

California, good to choice, 1903 crop 20 @ 23

### Wool.

The local market remains as slow and featureless as previously noted, dealers confining their operations to interior points of production. At the pool sale held at Cloverdale on Thursday of last week about 300 bales were disposed of, and it is reported the wool commanded the uniform price of 13c., being the same figure as last year.

### FALL.

Humboldt and Mendocino	13 @ 14
Mountain, free	11 @ 13
San Joaquin Plains	8 @ 11
Nevada	12 @ 16

### Hay and Straw.

Quotable values remain at about same range as last week, but these figures are based mainly on the views of dealers, who now have the bulk of horse hay under control and in warehouse. Offerings crowded to sale could not be placed at full figures. Alfalfa hay is still offering in considerable quantity from first hands. Straw is not arriving very freely and is meeting with a rather firm market.

Bran, 1 ton	\$20 00 @ 22 00
Middlings	24 00 @ 27 00
Shorts, Oregon	21 00 @ 22 50
Barley, Rolled	24 00 @ 25 00
Cornmeal	30 00 @ 31 00
Cracked Corn	30 50 @ 31 50

### MILLSTUFFS.

Stocks of Bran and Middlings showed some increase, but demand was fair and asking prices were without radical change. Rolled Barley was steadily held. Market for all Milled Corn showed weakness in consequence of the recent reduction in prices for the raw product.

Wheat, good to choice	\$13 00 @ 16 00
Wheat and Oat	13 00 @ 15 00
Oat, fair to choice	11 00 @ 14 50
Barley	9 50 @ 13 00
Clover	10 00 @ 11 50
Alfalfa	10 00 @ 11 50
Compressed	13 00 @ 16 00
Straw, 1 bale	55 @ 65

### Seeds.

Not much Mustard Seed in stock here and the inquiry on local account is of a light order. Shipments East are mainly from producing points direct. Little doing in Alfalfa, but market is expected to open in the near future; at present the market is lightly stocked. Business doing in Bird Seed is at generally unchanged values, with stocks of moderate volume.

Alfalfa, Cal., good to choice	\$12 00 @ 15 00
Flax	2 25 @ 2 50
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25

Canary	5 @ 5 1/2
Rape	1 1/2 @ 2 1/4
Hemp	3 1/2 @ 4
Timothy	6 @ 6 1/2

### Honey.

Market is more quiet than for several weeks preceding, but is fairly steady as to value. Spot stocks and offerings of both Comb and Extracted are mainly of amber grades, while most urgent inquiry is principally for water white, the latter being the only kind meeting with much competitive bidding from buyers. Recent arrivals of honey included a lot of 121 cases from the Hawaiian Islands. The bees of the Islands feed mainly on sugar.

Extracted, White Liquid	5 1/2 @ 6 1/4
Extracted, Light Amber	5 @ 5 1/2
Extracted, Amber	4 1/2 @ 5
Extracted, Dark Amber	4 @ 4 1/2
White Comb, 1-frames	13 @ 14
Amber Comb	9 @ 11

### Beeswax.

Values are being maintained at previously quoted range. Offerings are not heavy and demand is not lacking for desirable qualities.

Good to choice, light 1 lb	27 1/2 @ 29
Dark	25 @ 26

### Live Stock and Meats.

Demand for Beef showed some improvement, with prices firmer for best, and to this extent the market was in better shape, but stocks of other than choice were more than sufficient for requirements, and figures obtainable for common grades were unimproved. Veal was plentiful, especially small, market for which

was easy at the quotations. Mutton was in quite fair supply and moderate request at same range of values last quoted. Large Lambs inclined in favor of buyers. Small Lambs were in light receipt and in prime condition were salable to advantage. Hogs were in tolerably free receipt, especially light weights, and prices on these were not so well sustained as on the larger sizes.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterer's profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1 lb	6 1/2 @ 7
Beef, 2nd quality	5 1/2 @ 6
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 @ 7 1/2 c; wethers	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs	5 1/2 @ 5 3/4
Hogs, large, hard, over 250 pounds	5 1/2 @ —
Hogs, small, fat	5 @ —
Veal, small, 1 lb	8 @ 9 1/2
Lamb, Spring, 1 lb	9 @ 10

### Hides, Skins and Tallow.

Business doing in this department is of fair average proportions, with values steady. A shipment of 115,000 lbs. Tallow went forward by sailing vessel for London. A steamer took 177,000 lbs. for Peru.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from brags, culls, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	— @ 10	— @ 9
Medium Steers, 48 to 56 lbs.	— @ 9	— @ 8
Light Steers, under 48 lbs.	8 @ —	7 @ —
Heavy Cow Hides, over 50 lbs.	8 @ —	7 @ —
Light Cow Hides, under 50 lbs.	8 @ —	7 @ —
Stags	— @ 6	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @ 10	— @ 9
Wet Salted Calf	— @ 10 1/2	— @ 9 1/2
Dry Hides	— @ 16	— @ 15
Dry Kip and Veal, 11 to 16 lbs	— @ 13	— @ 12
Dry Calf, under 4 lbs	— @ 18	— @ 16
Pelts, long wool, 1/2 skin	1 00 @ 1 50	—
Pelts, medium, 1/2 skin	70 @ 80	—
Pelts, short wool, 1/2 skin	40 @ 65	—
Pelts, shearing, 1/2 skin	15 @ 30	—
Horse Hides, salted, large prime, each	2 75	—
Horse Hides, salted, medium	2 50	—
Horse Hides, salted, small	2 00	—
Horse Hides, dry, large	1 75	—
Horse Hides, dry, medium	1 50	—
Horse Hides, dry, small	1 25	—
Tallow, good quality	4 1/2 @ 5	—
Tallow, poorer grades	3 @ 4	—

### Bags and Bagging.

The same quiet condition previously noted is still prevailing in this market, and nothing to warrant anticipating any material change in the near future.

Bean Bags	4 1/2 @ 5
Fruit Sacks, cotton	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/4
Grain Bags, San Quentin, in lots of 2000, 100	5 55 @ —
Wool Sacks, 4-b	32 @ —
Wool Sacks, 3 1/2-lb	30 @ —

### Poultry.

There were heavy receipts of Eastern poultry, largely young chickens, causing market for this description to rule weak. Old chickens had to be extra large and fat to be salable to advantage. Young Turkeys did not arrive in large quantity and sold at about same figures as last quoted. Ducks and Geese met with a moderately good market, but the decided preference was given to choice young. Pigeon market was firm for young, but slow and weak for old.

Turkeys, young gobblers, 1 lb	\$ 20 @ 22
Turkeys, young hens 1 lb	19 @ 21
Turkeys, old, 1 lb	14 @ 17
Hens, California, 1/2 dozen	4 00 @ 5 50
Roosters, old	4 50 @ 5 00
Roosters, young (full-grown)	4 50 @ 5 00
Fryers	3 50 @ 4 50
Broilers, large	3 00 @ 3 50
Broilers, small to medium	2 50 @ 3 00
Ducks, old, 1/2 dozen	4 00 @ 5 00
Ducks, young, 1/2 dozen	5 00 @ 6 00
Geese, 1/2 pair	1 75 @ 2 00
Goslings, 1/2 pair	2 00 @ 2 25
Pigeons, old, 1/2 dozen	1 00 @ 1 25
Pigeons, young	2 00 @ 2 25

### Butter.

High grade fresh is not plentiful, and for butter of this description tolerably stiff figures are being realized, in some instances slightly above quotations, but for the ordinary run of offerings the market is lacking in firmness. Most of the fresh now coming forward is of quite common quality, even of brands which early in the season are among the best. Buyers are as a rule taking cold storage cubes in preference to second grade fresh. Much of the cube butter being distributed here at present in consuming channels is Eastern product.

Creamery, extra, 1 lb	29 @ 30
Creamery, firsts	26 @ 27 1/2
Dairy, select	25 @ 26
Dairy, firsts	25 @ 26
Mixed Store	18 @ 20

### Cheese.

Market is well stocked with other than fancy mild new, and only for this kind is there any special firmness. On held cheese concessions to buyers are the rule rather than the exception where transfers of anything like wholesale proportions are effected. Eastern markets have been lately inclining in favor of the buyer.

California, fancy flat, new	13 @ 13 1/4
California, good to choice	11 1/2 @ 12 1/4
California, "Young Americas"	13 1/4 @ 14
Eastern	14 @ 15 1/4



Eggs.

Very few select fresh arriving, and not many are required to satisfy the demand at extreme prices generally asked for this description. Retailers are running largely on cold storage and Eastern eggs, in many instances selling these for California fresh at a big profit. What are known as Eastern fresh, or eggs which had not been over 90 days in cold storage, were offered in carload lots as low as 24c per doz. Wholesale transfers of April and May eggs out of cold storage were mainly within range of 22@26c, as to quality.

California, select, large, white and fresh.	50	@54
California, select, irregular color & size.	40	@45
California, good to choice store.	25	@32½
Eastern.	24	@30

Vegetables.

It has been the exception where vegetables in season were in heavy display, but demand was not particularly active and market as a whole was not in the main noteworthy for firmness, especially for other than choice to select fresh. Tomatoes went to canners at 25c per box, and sales above 50c were the exception. Tendency on Onions was to easier figures. Choice Egg Plant and Cucumbers were higher.

Beans, Lima, ½ lb.	3	@	5
Beans, String, ½ lb.	2	@	4
Cabbage, choice garden, 100 lbs.	60	@	—
Cucumbers, ½ large box.	45	@	70
Egg Plant, ½ box.	50	@	75
Garlic, ½ lb.	3	@	4
Onions, Yellow Danver, ½ ctn.	50	@	75
Okra, Green, ½ small box.	50	@	75
Peas, Sweet Garden, ½ lb.	3	@	3½
Peppers, Green Chile, ½ box.	40	@	65
Peppers, Bell, ½ box.	50	@	75
Summer Squash, ½ large box.	35	@	60
Tomatoes, Bay, ½ large box.	25	@	60

Potatoes.

There were tolerably liberal offerings of Burbank Seedlings, and the general drift of the market continued favorable to the buying interest, the demand net being very active. A few of superior quality went to special local custom at comparatively good figures, but the bulk of business was at a rather low range of prices, most of the transfers in a wholesale way being at 75@90c, and some of very good quality went at inside figure quoted. Sweeters were in increased receipt, and sales above \$1.25 in a regular way were the exception.

Sacramento River Burbanks	\$ 50	@	80
Salinas Burbanks, ½ cental.	1 00	@	1 45
Petaluma and Tomales Burbanks.	60	@	90
Oregon Burbanks.	65	@	1 00
Sweeters.	1 00	@	1 25

Fresh Fruits.

Aside from Apples, the display of deciduous fruits the past week has been decidedly light. Apple market was tolerably firm for choice to fancy, but weak for the common grades. Fancy Spitzenberg, four tiers to the box, commanded \$1.50 per box. Some Spitzenbergs of fine quality, but of small size, went at \$1 per box. Common Apples were quotable down to 25c per box, and there were some of very poor quality for which this figure was not obtainable. There were no heavy quantities of Pears offering, but for the ordinary run of cooking varieties, now largely in evidence, the market was slow at unimproved prices. For choice to select Winter Nelis the market was moderately firm at same range of values quoted last week. Plums were in too light receipt to warrant quoting, and the same remark applies to Figs, the season for these fruits being virtually ended. Persimmons were in moderate receipt, mostly under ripe, and were held mainly within range of 75c@81 per box. Market for Table Grapes ruled fairly steady, with demand moderately active, both on local account and for shipment. Crates were most in favor for shipment. Large open boxes were in demand from local consumers, and especially did choice Muscats in open boxes sell to advantage. Wine Grapes arriving were mostly off quality, and on this account failed to move readily. The Melon season is about closed, and only the Nutmeg variety is at present quotable. Strawberries and Raspberries which were choice brought tolerably good figures, receipts being light. Cranberries were held at much the same figures as preceding week, and market rather firm for choicest.

Apples, fancy, 4-tier box.	\$ 1 25	@	1 50
Apples, good to choice, 50-box.	65	@	1 00
Apples, common to fair, 50-box.	25	@	60
Cranberries, Coos Bay, ½ box.	2 50	@	3 00
Cranberries, Eastern, ½ bbl.	9 50	@	10 00
Figs, Black, ½ drawer.	50	@	75
Grapes, ½ crate.	40	@	75
Grapes, ½ small box.	25	@	50
Grapes, ½ large open box.	75	@	1 50
Grapes, Royal Isabelle, ½ crate.	75	@	1 00
Grapes, Zinfandel, ½ ton.	17 00	@	22 00
Nutmeg Melons, ½ box.	40	@	75
Peaches, ½ box.	90	@	1 25
Pears, Winter Nelis, ½ box.	65	@	1 25
Pears, other varieties, ½ box.	40	@	75
Persimmons, ½ box.	50	@	1 00
Pomegranates, ½ small box.	50	@	75
Raspberries, ½ chest.	4 00	@	7 00
Strawberries, Longworth, ½ chest	6 00	@	9 00
Strawberries, Melinda, ½ chest.	2 50	@	6 00

Dried Fruits.

There has been considerable outward movement the past week of cured and

evaporated fruits, both by sea and rail, but the shipments were largely out of stocks in second hands or of goods previously contracted for. The German steamer Uarda, sailing yesterday, carried 903,552 lbs. prunes, mostly for Germany, and 16,000 lbs. of other dried fruit. In the way of immediate transfers from growers, not much business has been reported. Prunes, Peaches and Apples now represent the bulk of offerings from first hands, and for these kinds the market has not been inclining in favor of the selling interest, although under free buying the payment of fully as firm figures as lately current would have been necessary. Jobbers have been turning down numerous deliveries of Peaches, for no other reason than that they did not care to pay the prices they had agreed to, not even going through the formality for appearance sake of inspecting the fruit, but bluntly refusing to accept delivery. They likely expect to break the market by this course, and have already imparted an air of weakness, especially on the higher grades, which are in heaviest stock, and where trouble is being mainly experienced in getting buyers to live up to their agreements. These deliveries could in all probability be made to hold by resorting to the courts, but the expense and delays of litigation deter sellers from taking such a course. It would be much better to insist on a deposit of 10% or 15% of the purchase price at time of sale, to be forfeited in case of backing out of the contract. Business in Prunes is mainly on the 2½@2½c basis for fours in bags, latter figure for Santa Claras. Large sizes are, however, commanding a substantial premium, 40-50's being quotable at 4½@5c, while 30-40's are salable at 6½c, and difficult to secure in great quantity at this figure. While the movement in Apples is not brisk, there is no quotable decline. In fact, for fancy evaporated current values are being quite well maintained, sales being possible up to 6c in a moderate way. Unpitted Plums are neglected and values for them wholly nominal at present. Pitted Plums are scarce and firmly held.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4½@	5
Apples, extra choice to fancy, 50-lb boxes.	5½@	5½
Apricots, Moorpark.	8	@11
Apricots, Royal, good to choice, ½ lb.	7	@8
Apricots, Royal, fancy.	8½@	9
Figs, 10-lb box, 1-lb cartons.	60	@75
Nectarines, ½ lb.	4	@5
Peaches, unpeeled, fair to good.	4½@	5
Peaches, unpeeled, choice.	5½@	6
Peaches, unpeeled, fancy.	6½@	7
Peaches, unpeeled, extra fancy.	7½@	8
Peaches, peeled.	10	@12½
Pears, halves, fancy.	9	@10
Pears, halves, choice.	6½@	7½
Pears, halves, fair to good.	5½@	6½
Plums, Black, pitted.	5	@6
Plums, Red and Yellow.	7	@8
Prunes, Silver, good to fancy.	5	@7
Prunes, in bags, 4 sizes, 2½@2½c; 40-50s, 4½@5c; 50-60s, 3½@4c; 60-70s, 3¼@3½c; 70-80s, 2¾@3c; 80-90s, 2¼@2½c; 90-100s, 2@2½c; small, —@—c.		

COMMON SUN-DRIED.

Apples, sliced.	3¼@	3½
Apples, quartered.	3¼@	3½
Figs, White, in bulk.	3	@5
Figs, Black, in sacks, ½ lb.	3	@4½

Raisins.

A revised list of prices of the Growers' Association went into effect Monday and is given below. Quotations for seeded are higher, but the changes in other raisins are to lower figures. It is stated that orders booked for seeded prior to the advance will absorb fully one-half the season's crop.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. h. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5½c. per lb.; 3-crown, 5½c. 4-crown, 6½c.; Seedless Muscatels, 4½c.; do floated, 4½c.; unbleached Sultanias, 4½c.; Thompson's Seedless, 5½c.; London Layers—2-crown, \$1.25; 3-crown, \$1.35; 4-crown, clusters, \$2.00; 5-crown Dehesas, \$2.50; 6-crown Imperials, \$3.00; Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5½c.; Valencia cured, 4½c.; Pacific do, 3½c.; Oriental do, 2½c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7½c.; 12-oz. packages, fancy, 6½c.; choice, 6½c.; in bulk, fancy, 7½c.; choice, 7½c.

Citrus Fruits.

The first new crop Navel oranges arrived Thursday last from J. P. Whitney of Rocklin, Placer county, the shipment consisting of six boxes, and was reported sold at \$5 per box. Another invoice from same section has since arrived. Late Valencias are in moderate stock. Lemons were in fair request, but supplies proved ample for the requirements and prices were without quotable change. Limes continued to be offered at the reduced figures last quoted.

Oranges, Valencias, ½ box.	\$1 25	@2 50
Lemons, California, select, ½ box.	2 25	@2 50
Lemons, California, good to choice.	1 50	@2 00
Lemons, California, fair to good.	1 00	@1 50
Grape Fruit, ½ box.	1 50	@2 50
Limes, Mexican, ½ box.	4 00	@4 50

Nuts.

There are very few Almonds now offering from first hands; market firm at quotably unchanged values. New crop Walnuts are coming forward and are being rapidly distributed to jobbers and retailers on orders previously hooked; current

figures are being well maintained, most of the crop having been already disposed of. Peanuts are in fair request and prices unchanged.

California Almonds, shelled.	15	@18
California Almonds, paper shell.	10	@12
California Almonds, soft shell.	7	@8
California Almonds, hard shell.	5	@6
California Walnuts, soft shell.	13	@14
California Walnuts, standard.	11½@	12½
Chestnuts, California-Italian.	10	@15
Peanuts, fair to prime.	4½@	5½
Peanuts, Eastern, hand-picked.	5½@	6½

Wine.

The wholesale wine market remains quiet, with little offering at present of last year's vintage and prices for this year's wines not yet determined. Dry wines of last year are quotable nominally at 15@18c per gallon. Dry wine grapes have been delivered freely, selling within range of \$13@18 per ton, as to quality and district. The season has been exceedingly favorable for the development of a high percentage of sugar, and the quality of this year's vintage is expected to be above the average. The steamer San Jese, sailing on Saturday last, took 102,894 gallons and 16 cases wine, the bulk of the shipment, 101,459 gallons, being for New York. Receipts of wine at San Francisco last week were 382,200 gallons and for preceding week 309,700 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sks.	112,818	1,872,485
Wheat, cts.	28,817	729,561
Barley, cts.	229,387	2,637,659
Oats, cts.	18,819	456,453
Corn, cts.	621	46,318
Rye, cts.	400	22,338
Beans, sks.	44,636	196,024
Potatoes, sks.	23,887	371,147
Onions, sks.	6,285	63,906
Hay, tons.	4,435	79,177
Wool, bales.	2,797	23,414
Hops, bales.	1,422	13,978

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sk	70,484	1,303,376
Wheat, cts.	11,364	301,551
Barley, cts.	153,199	2,040,152
Oats, cts.	87	8,456
Corn, cts.	183	5,402
Beans, sks.	79	11,035
Hay, bales.	1,243	51,415
Wool, lbs.	1,353,159	399,869
Hops, lbs.	6,301	222,138
Honey, cases.	947	1,849
Potatoes, pkgs.	3,283	26,931

New Patents.

DEWEY, STRONG & Co.'s Scientific Press PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING OCTOBER 6, 1903.

- 740,512.—SOUND TRANSMITTER.—S. J. Ballard, Los Angeles, Cal.
- 740,613.—LUMBER "TRUCK"—J. Barker, Carson City, Nev.
- 740,734.—HAT HOLDER—M. F. Bishop, Alameda, Cal.
- 740,800.—RACK DRILL—W. Brady, S. F.
- 740,740.—LIME SUPPORT—C. E. Brown, Selma, Cal.
- 740,741.—LIME SUPPORT—C. E. Brown, Selma, Cal.
- 740,522.—CALCULATOR—B. Bundy, Pasadena, Cal.
- 740,393.—SAW SET—H. Caldwell, Ocoosa, Wash.
- 740,805.—GAS CUT OFF—V. E. Campbell, Goldendale, Wash.
- 740,528.—FURNACE—H. B. Cary, Los Angeles, Cal.
- 740,535.—SAWING MACHINE—W. H. Clendenon, Healdsburg, Cal.
- 740,599.—PUMP—J. P. Coussé, Glendale, Cal.
- 740,539.—FURNACE—J. M. Cutler, Ukiah, Cal.
- 740,541.—MATCH BOX—B. F. Daniels, Nogales, Ariz.
- 740,821.—DOOR FASTENER—F. G. Dickey, Seattle, Wash.
- 740,746.—BUTTER MOLD—W. S. Farnsworth, Healdsburg, Cal.
- 740,747.—SWAGE—J. F. Finnegan, Igerna, Cal.
- 740,653.—RULE—E. Hipolito, Los Angeles, Cal.
- 740,980.—GAME—J. W. Hughes, S. F.
- 740,761.—CUSPIDOR—B. Z. Judie, Oakland, Cal.
- 740,573.—HAME—T. E. Kellogg, Mount Hood, Or.
- 740,762.—ACID VALVE—J. Koch, West Berkeley, Cal.
- 740,770.—MALT TURNER—J. Mueller, Georgetown, Wash.
- 740,585.—ELECTRIC SIGN—D. J. O'Brien, S. F.
- 740,588.—FRUIT DRIER—A. A. Quinberg, Vancouver, Wash.
- 740,750.—STEAM TURBINE—J. Richards, S. F.
- 740,590.—DAM—M. D. Rochford, Los Angeles, Cal.
- 740,993.—PNEUMATIC MUSICAL INSTRUMENT—F. F. Schoenstein, S. F.
- 740,475.—HOISTING DEVICE—C. Serley, Wilbur, Wash.
- 740,595.—WAGON BRAKE—C. E. Sherman, Union, Or.
- 740,705.—STOVE—F. J. Smith, Los Angeles, Cal.
- 740,939.—SIGNALING APPARATUS—W. J. Smith, Seattle, Wash.
- 740,599.—CAN HEADER—W. H. Smyth, Berkeley, Cal.
- 740,600.—CAN HEADER—W. H. Smyth, Berkeley, Cal.
- 740,486.—GUN CLEANING ROD—H. A. Tellerson, Oakland, Cal.
- 740,949.—HARVESTER—H. Traeger, Auburn, Wash.
- 740,786.—FURNACE—S. Uren, Sacramento, Cal.

HORSES which have been used steadily at work, either on the farm or road, may have had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam applied as per directions will be of great benefit; and this is the time when it can be used successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at a time when the horse is having a rest.

California Hogs for the Philippines.

Thos. Waite of Perkins, Cal., sold this week to the United States Government four of his best yearling Berkshire boars, which were shipped to Manila on the S. S. Siberia. The purchase was made for the Government by Major E. G. Shields, insular purchasing agent for the Philippine Islands. The purpose of the Government in securing these fine young boars from Mr. Waite is to improve the breed of hogs in our distant tropical possessions, and the animals were selected with this object in view.

**Horse Owners! Use**  
GOMBAULT'S  
**Caustic Balsam**  
A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
**THE LAWRENCE-WILLIAMS CO., Cleveland O.**

**MALTHOID**  
The best low priced roofing  
**Malthoid Roofing.**  
Fire resisting. Will thoroughly protect all buildings covered with it. A better roofing for less cost than any other roofing made. Quickly laid and lasts for years.  
Send for booklet.  
**The Paraffine Paint Co.**  
San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

SOMETHING NEW UNDER THE SUN.



**A Cheap, Effectual and Permanent Method of Propping Trees.**  
Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.  
SAMPLES FREE TO ORCHARDISTS.  
**HOYT'S TREE SUPPORT CO.**  
WATSONVILLE, CAL.  
Or, R. M. TEAGUE, San Dimas, Cal.  
Distributor for Southern California.

**THE NEW EGG FARM.**  
By H. H. STODDARD.  
A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations cloth. Price, \$1 postpaid.  
**PACIFIC RURAL PRESS.**  
330 Market St., San Francisco, Cal.



## FRUIT MARKETING.

### Mr. Kearney's Observations and Views.

[From the Fresno Democrat.]

M. Theo. Kearney, president of the Kearney Vineyard Syndicate, father and organizer of the California Raisin Growers' Association, and one of Fresno's most prominent capitalists, and far-seeing business man, returned this morning from a trip to Europe and the Eastern States extending over three months. Mr. Kearney was at the Hughes Hotel this morning when called upon by a Democrat man, to whom he talked entertainingly of his trip. What he had to say shows that in all his travels he never forgot the interests of the State generally and particularly the San Joaquin valley. He appeared to be much refreshed by his trip abroad and in improved health. He had spent one week in San Francisco before coming home.

**CALIFORNIA FRUITS ABROAD.**—With reference to the prospects for the California fruit crop in the Eastern States, and more especially the raisin market, he said:

I have been engaged in colonizing Fresno lands for thirty years, and have, of course, carefully watched the fruit markets of the world during that time. I do not recollect of any time within that period when there was such a scarcity of fruit throughout the United States and Europe as this year. If there is anything in the law of supply and demand, fruit prices must advance very materially before another crop comes in. This condition is an important element in the raisin situation. We used to be told that if there was a large crop in the Eastern States the people would buy fruit in preference to our raisins except at a low price. I don't think the trade can say that this year.

So far this season there has been no cold weather in the East to develop an active demand on the part of the consumers for dried fruit. As soon as the cold weather sets in I think the fruit trade will take on a more active appearance.

**THE EASTERN DISPOSITION.**—A condition I observed in the East on my return from Europe is a tendency to conservatism in purchases, and a lack of desire to speculate. The tremendous losses in railroad and industrial stocks on Wall street during the past year, and a determination on the part of capitalists to stop building enterprises on account of labor troubles, has produced a very cautious feeling, and I think that dealers generally in all kinds of goods are not inclined to order more than is required for immediate wants. This is having its effect upon the sale of our raisin crop, which I understand is not as free as it was last year. It is very important to us that everything be done that will in any manner stimulate the purchase of raisins before the holidays.

**ARRANGING PRICES.**—If the trade could be induced to order freely as it did last year, having the goods on hand, it would instruct salesmen to sell them, and in that way would secure the only effective manner of marketing our product early. If, on the contrary, the trade pursues a conservative course, half the time the dealers will not have the raisins on hand to supply their customers and we will thus lose the sale of our product. I know of no more effective way of creating a demand for raisins than to raise the prices. The trade, however, must be given an opportunity to lay in a good supply at the low price so that the profit may tempt it to push the sale of our raisins.

I have always been in favor of this policy, and what I have considered equally essential is the issuance by the Association of printed price lists to all dealers throughout the United States with the statement that the prices would be raised by the Association after the first week or ten days, and would then be maintained throughout the whole season and until the next crop would come in. In my judgment it is not enough to simply deal with the packers, and it is certainly suicidal to give any intimation to the trade that the prices would not be maintained longer than February or other early date.

**PUBLICITY.**—I found that another very effective way of reaching the trade throughout the East is by the use of fruit trade papers by means of advance notices and such other information as would be considered as news by these papers. In times like the present we cannot, to use a familiar phrase, afford to "miss taking a single trick" in marketing our products. I understand that the Association has

given notice to the packers that prices will be advanced, but as intimated I think this notice would be much more effective if made by the Association through trade journals and by means of circulars so as to promptly reach every dealer in the United States, and it should be made entirely clear that the Association will maintain such prices as it makes until the next crop comes in. With this market properly handled I haven't the slightest doubt but it will take our present crop, which is not as large as was expected at full figures.

**CALIFORNIA BECOMING BETTER KNOWN.**—Mr. Kearney spoke encouragingly of the attention that is being attracted to California in the Eastern States. He said:

California is receiving and has received for the past two years more thoroughly good advertising than it has been favored with for twenty years previous. Another fact in our favor is that the farming lands of the Eastern and Central States are from 50% to 100% higher in price than a few years ago, which gives an opportunity to many who have been wanting to come to California to sell at good figures and for cash, and with that money buy homes in this State. It is well known by those who have looked into the subject that the great railway systems of the west, through their advertising and promotion bureaus, have been the principal factors in building up that country, and thereby making business for their roads. They now fully appreciate the value of that work. They have thoroughly learned how best to do it, and they are exerting themselves to a very large extent in directing population to this coast. I therefore look for an immediate and tremendous development of the resources of this State, as well as the States north of us, far eclipsing all that has gone before. While there is a spirit of conservatism among the bankers, manufacturers and dealers in the East as before referred to, I do not look for that condition to come about on this coast for the reason that the great influx of people and money to this section of the United States will create local conditions of prosperity entirely independent of conditions in the East.

Mr. Kearney expects to remain in Fresno all the winter.

### Prune Trade of Southeast Europe.

By FRANK DYERCHESSTER, United States Consul, Sept. 17, 1903, Budapest, Hungary, furnished for publication in the PACIFIC RURAL PRESS.

The Austro-Hungarian Consulate in Belgrade, Serbia, reported for the month of June that last year's prune supply in his district is exhausted, and that in consequence of reports from the interior of Serbia predicting a poor crop for 1903, prices have risen. For October delivery the new prunes can be had for 30 75-100 crowns (\$6.24). In the month of June, Serbia exported 110,471 kilos (243,036 pounds) of prunes as follows: Germany, 35,142 kilos; Switzerland, 20,000; Italy, 15,015; Austro-Hungary, Total, 40,314, 110,471 (243,036 pounds). It is expected that 70,000 quintals (15,432,200 pounds) of prunes will be exported, which is 130,000 quintals less than in 1902.

### The Walnut Crop of Chile.

Report of R. E. MANSFIELD, United States Consul, Valparaiso, Chile, August 20, 1903, furnished for publication in the PACIFIC RURAL PRESS.

There are no statistics available concerning the production of walnuts in Chile. The crop this year is about equal to that of last season in quantity, but the quality is reported not so good. Careful estimates place the total production this year at 50,000 sacks, averaging about 53 kilograms or 117 pounds to the sack, 2,650,000 kilograms, or 5,800,000 pounds aggregate weight.

The market price in Valparaiso this season has averaged about 28 cents, Chile currency, per kilogram, or from \$14.50 to \$15 per sack of 53 kilograms. (The Chilean dollar is worth 36½ cents in United States gold.)

The walnuts grown in Chile are known as the "English" walnut. The size and condition of the nut varies according to soil and climate where grown. In the Provinces of Valparaiso and Santiago the nuts attain a much greater size than those grown further south where it is much colder. The shell on the larger nuts is much thinner and less firm than those grown in the territory

further south. The finest walnuts produced in Chile, both in size and flavor, are grown at Quillota and Limache. They are very large, of excellent quality, and a small per cent of them defective. The crop is harvested in March. About four-fifths of the nuts produced in Chile are exported. They go to the United States, England, Germany, Argentine Republic and Brazil. The freight rates vary from \$10 to \$12 (United States currency) per ton to the United States and Europe. There have been exported to the United States this season about 20,000 sacks of walnuts, 1,000,000 kilograms, or in the aggregate 2,200,000 pounds. This represents a value of something like \$280,000 Chile currency. The shipments to the States this year represent about two-fifths of the total walnut crop of Chile, and much of the crop still remains in the country.

### NOTE IT DOWN!

## THE CREAM U.S. SEPARATORS ARE THE BEST



### BUY ONE AND PROVE IT

We have the following transfer points: Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Montreal, Quebec, Sherbrooke, P. Q., Hamilton, Ont.

Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., Bellows Falls, Vt.

**3-HORSE POWER Webster Gasoline Engine.**

RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.

SEND FOR CATALOGUE.

**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

MASON'S O.K. GATE  
PATENTED APR. 24-1889  
IMPROVED JAN. 12-1903

THE CREAM OF PERFECTION IN THE SELF-OPENING GATE LIME THE LLOYD CO.

SOLE AGENTS AND MANUFACTURERS  
PETALUMA CAL.

WRITE FOR OUR CATALOGUE



**THE MAD CAREER**

of a powerful runaway auto at Zanesville, O., fair, was suddenly stopped by Page Fence, but not until it had killed or injured a score of people.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

**WIRE FENCE**

HOG GATTLE POULTRY NETTING BIRD WIRE

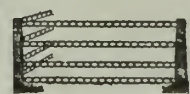
WEST COAST WIRE & IRON WORKS

19 FREMONT ST. SAN FRANCISCO.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man, has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

## REPAIRING TRUSS and CABLE FENCING.



Should a strand become broken or the one nearest the ground rust out, as is liable to be the case with all wire fences where the ground is wet, it is only necessary to replace the injured strand. The length depends solely upon the extent of the damage as it can be repaired readily from post to post.

Write for descriptive circular.

Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.

## THE "BOSS" TREE PROTECTOR.



Made of Yucca Palm.

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.]

### PRICES:

12 inches long,	\$ 9.00	per 1000.
14 "	"	10.00 "
16 "	"	11.50 "
18 "	"	12.50 "
24 "	"	15.00 "
30 "	"	17.50 "

Agents Wanted Everywhere.

YUCA MANUFACTURING CO.,

450 Santa Fe Avenue, Los Angeles, Cal.

**75%**

That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. THIS MACHINE AND ALL

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful Direct Blast Blower Elevator.

SEND FOR "A Book on Silage" BY PROF. F. W. WOLL AN ACRE OF CORN and its possibilities.

Gen'l Agts.  
**HOOVER & CO.**  
16-18 Drumm St. SAN FRANCISCO

Price, 10c in stamps

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the Mining and Scientific Press. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

**DEWEY, STRONG & CO.**

(ESTABLISHED 1860.)

PATENT AGENTS,  
330 Market St., San Francisco, Cal.

—AND—  
918 F St., Washington, D. C.



## You Lose Money

every time your horse is laid up with **Sore Shoulders, Neck or back.**

## Tuttle's Elixir

cures them and **Curb, Splint, Sprained Cord, Spavin, etc.** Given internally it is unequalled for Colic, Distemper, Founder, Pneumonia, etc. *Used and Endorsed by Adams Express Company.*

### Tuttle's American Condition Powders

—A specific for impure blood and all diseases arising therefrom. **TUTTLE'S FAMILY ELIXIR** cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.

**Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass.**  
437 O'Farrell St., San Francisco, Cal.  
Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.

## THE FIELD.

### The California Bean Crop.

J. B. Meloche, the well-known produce buyer, has prepared for the Stockton Mail a report of the produce conditions in this part of the State this season, and reaches the conclusion that the bean crop will be more than 5000 tons short of that of last year, though there is an increase of acreage. He reports the total acreage as 30,700, as follows:

Pierson district, on the Sacramento river, 1200.

Tyler Island, on the Mokelumne river and Georgiana slough, 1200.

Andrus island, on the Sacramento river, 850.

Brannan island, on the Sacramento river, 300.

Ryer island, on Cache slough, 4000.

Yolo Basin, on Cache slough, 800.

Grand island, on the Sacramento river and Steamboat slough (poor crop), 6000.

Sutter island, on Steamboat slough, 1000.

Merritt island, on the Sacramento river, 2000.

Staten island, on the Mokelumne river, 800.

New Hope pocket, on the Mokelumne river, 1200.

Walnut Grove and vicinity, on the Sacramento river, 200.

Sargeant tract, on the Mokelumne river, 150.

Terminus, on the Mokelumne river, 1000.

Union island, Old and Middle rivers and Victoria and Roberts island, 6500.

Moss, Barnhart, Smith and McLaughlin tracts and Rough and Ready island, 2500.

The last-named district produces nearly every kind of bean raised in California, except Limas and small whites. In sediment and heavy land near the levees blackeye beans are most preferred, and will yield better than any other kind.

In addition to the foregoing acreage there are about 1000 acres in different localities accessory to Stockton and Sacramento, planted to all kinds of varieties, which are usually sold to the local merchants in nearby towns.

The following gives the acreage and yield for four years:

In 1900, 18,375 acres and 16,000 tons; in 1901, 24,720 acres and 23,638 tons; in 1902, 28,180 acres and 25,633 tons; in 1903, 31,700 acres and 20,350 tons;

Mr. Meloche says: "After a thorough examination of all the districts where beans are grown, I have come to the conclusion that this year's production in California will be less than it has been for at least three years, as the present yield, from the acreage that has been harvested, shows a fall of from eight to ten sacks an acre on the average. Pinks, where the frost touched them on the nights of 11th and 12th of September, will be cut down at least one-half. The Lady Washingtons are of better quality than last year, and the blackeyes, which are generally harvested before any other variety, are at least three weeks late, but the crop will be heavy in comparison with other varieties. Should the rain hold off until the latter part of October the price for blackeyes is bound to be low on account of the large holdover from last year."

The stock of old beans on hand is

given as follows: Limas, 4200 tons; large white, 1300; small white, 2500; blackeyes, 1250; pinks, 820; Bayos, 250; and other varieties, 125—a total of 10,445 tons, or 249,000 sacks.

Since the harvest of the new crop of beans commenced there were marketed, during the twenty-five days in Stockton, Sacramento and San Francisco, only a little over 50,000 sacks, as against 100,000 sacks during the same period last year.

Mr. Meloche figures out the percentage of varieties as follows: Lady Washingtons 40, pinks 40, Bayos 5, blackeyes 5, other varieties 10. The other varieties referred to include kidneys, red, cranberry, small white and garavanza or chick-pea.

The following is the estimate for southern California: Lima 7000 tons, small white 3000, pink 2500, large white 2000, blackeyes 2200, and other varieties 1000.

There was an early report of a big shortage in Ventura county, but it is not so bad as at first supposed.

## Removal Notice

—OF—

The **CUTTER ANALYTIC LABORATORY.**

On account of extreme summer heat interfering with laboratory processes **WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.**

Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The **CUTTER ANALYTIC LABORATORY,**  
Station "K," San Francisco.

OUR SPECIALTY IS

**CUTTER'S  
BLACK LEG VACCINE.**

Write for **BLACK LEG** booklet.

If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## National Wood Pipe Company

INCORPORATED.

PHONE, SOUTH 140.

MANUFACTURERS OF

## REDWOOD WATER PIPE

From 3-in. to 10-ft. in diameter for

**Water Works,  
Mining and  
Irrigation Plants.**



CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can be easily taken up and relaid, as it is absolutely indestructible. All pipe sold under an absolute guarantee. We contract for complete irrigation systems. Illustrated catalogue sent on application.

**NATIONAL WOOD PIPE COMPANY,** 6th and Mateo Sts., LOS ANGELES.  
301 Market St., SAN FRANCISCO.

**Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST**

MANUFACTURED BY

**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Rationing Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents. PETALUMA, CAL.

**GREENBANK** BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## SHARPLES TUBULAR FARM SEPARATORS

Built on the Square,

as everybody knows. Entirely different from other separators, new in principle. Guaranteed more convenient, efficient and durable than any other kind.

Write for catalog No. 131.

**P. M. SHARPLES,**  
West Chester, Pa.  
THE SHARPLES CO.,  
Chicago, Ill.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL!  
INVESTIGATE!

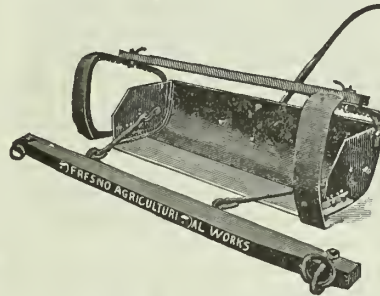
**MOTOR VEHICLE CO.**

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

## The Fresno Scraper.

3 1/2-4-5 Foot.



**FRESNO AGRICULTURAL WORKS,**  
FRESNO, CALIFORNIA.



## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of **EVERY** butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr. old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr. olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUCOC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP AND GOATS.

**FOR SALE**—Two fine thoroughbred Southdown yearling rams. Won 1st and 2nd premiums State Fair 1903. Perkins & Co., 1028 J St., Sacramento.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in **Poultry Supplies** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. Mfrs of Pacific Incubator and Brooder. Send for Catalogue.

**FOR SALE.**  
**Dairy-Bred Shorthorn Bulls.**

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

**BULLS FOR SALE.**  
Registered and High-Grade **SHORTHORNS.**

All inoculated for Texas Fever, at **CHOWOHILLA STOCK FARM.**  
Address.... **ISAAC BIRD,** Merced, Cal.



Single and Double Acting  
Deep Well Pumps  
of the highest efficiency.  
**STEAM AND GEARED PUMPS**  
pumping water supply for cities,  
railroads and factories.  
**THE DOWNIE PUMP COMPANY.**  
Box 21, Downieville, Pa.



## Patrons of Husbandry.

### Parcels Post at the State Grange.

The talk by Mr. Edward Berwick of Pacific Grove before the State Grange, in San Jose, is commented upon by the Herald of that city as follows:

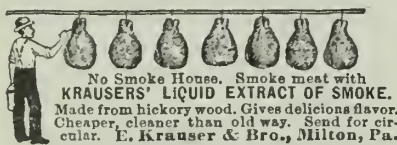
It is singular, is it not, that eleven-pound packages sent from Great Britain to New York at a cost of 75 cents will be transmitted across the continent to the Pacific coast at an additional cost of only 25 cents under an arrangement between the British postoffice and the American express companies, while a similar package from this coast to New York or from New York to this coast will cost the shipper \$2.35. As Mr. Berwick says, "If I want to send from Pacific Grove to New York, or from New York to Pacific Grove, the same companies charge me \$2.35 for the same service; the foreigner pays 25 cents, the American \$2.35."

Evidently there is something wrong here, and that wrong is the neglect of

### 9 CORDS IN 10 HOURS



BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocketknife. Saws any kind of timber on any kind of ground. One man can saw MORE timber with it than 2 men in any other way, and do it EASIER, 250,000 in use. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secures agency. Address FOLDING SAWING MACHINE CO., 55-57-59 No. Jefferson St., CHICAGO, ILL.



No Smoke House. Smoke meat with KRAUSERS LIQUID EXTRACT OF SMOKE. Made from hickory wood. Gives delicious flavor. Cheaper, cleaner than old way. Send for circular. E. Krauser & Bro., Milton, Pa.

## GLENN RANCH,

Glenn County, - - California.

## FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## Ponder Well This Proposition.

I offer for sale 42 acres fruit land in the Santa Cruz mountains, 5 miles from Los Gatos; 3000 trees, full bearing. This is a delightful summer resort, good roads and plenty of water and will accommodate 35 guests, and one-half of the applicants have to be turned away. A sturdy young couple can easily clear \$6000.00 a year.

Send for a circular giving full description of this valuable and charming place. The price has been reduced to \$12,000.00. Easy terms.

JOHN F. BYXBEE, Palo Alto, Santa Clara Co., Cal.

FOR SALE.—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

the Union to provide a parcels postal system, both domestic and foreign, for the benefit of its citizens. The American express companies are not losing money in carrying British packages of eleven pounds across the continent to the Pacific at 25 cents; they are not in business for their health, and it is safe to say that they make a generous profit at this figure. What, then, is the logical conclusion?

"It is, then," says Mr. Berwick, "quite possible, after paying the railroads and after reimbursing their shareholders handsomely, for these companies to carry eleven-pound packages anywhere in the Union for 25 cents. What these companies can do, our postoffice, properly managed and seeking no profit, can assuredly do far more easily."

Postal improvements, like all other reforms, come slowly. They are the outgrowth of public enlightenment, and enlightenment comes from experience and observation. The United States boasts of its progress, but in some respects it is far behind even so young and comparatively weak a country as Mexico, which requires the grantee of every railroad franchise to carry all postal matter and all postal employees while on duty without any charge to the Government.

The United States is behind Germany and behind Great Britain in the matter of a cheap postal service, both letter and parcel. The aim of the California Postal Progress League is to give the widest possible extension to the sphere of the United States postoffice, placing it at least on a par with Mexico and European countries in this respect. It is a practical organization working for practical results, and the movement of which it is at the head should have the united support of the people of California. Local branch leagues should be organized, and a front so solid presented that Congressmen and Senators who may not as yet have shown any interest in the movement will be forced into line by an irresistible public sentiment.

RESOLUTIONS.—The following resolutions introduced by S. T. Coulter were adopted:

WHEREAS, the experience of other nations has demonstrated the practicability and utility of a parcels post, therefore be it

Resolved, By the California State Grange that the Legislature Committee of the National Grange be, and it is hereby petitioned to renew and persist in its effort to procure such legislation by Congress as will secure to the people of the United States the inestimable blessing of such mail facilities be it further:

Resolved, That the Congressmen and Senators from California be requested to use their influence in the furtherance of the same.

Resolved, That a copy of these resolutions be sent to every Congressman and Senators of California.

## W & P. PAINT.

Good for any purpose where black paint is required; for inside or outside of tanks for wineries and creameries; for floors, sinks, and wash trays; for insulating; for timber or roof preserving; for damp course for walls; for boilers, fronts, stacks, or other iron work; for anything or any place needing preservation from corrosion, dampness, rust or decay. Unaffected by acids or alkalis. Odorless, and safely applied. Dries quickly and is tough and durable. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.**

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.**

Open All Year. **A. VAN DER NAILLEN, Pres't.** Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

## Seeds, Plants, Etc.

### ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't heat them. We grow the best. **FARMERS' AND MERCHANTS' BANK, Rocky Ford, Colo.**

## TRUE'S NURSERY

WILL BE REMOVED FROM

Forestville to Sebastopol.

Correspondence Solicited.  
Price List will be ready soon.

**T. J. TRUE, Sebastopol, Cal.**

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries SPECIALTIES.

These Dewberries have produced over 5 tons of fruit on 1/4 acre. For descriptive list, address

**W. J. EMBREE, Rural Box 61, El Monte, Los Angeles Co., Cal.**

## GINSENG.

Cultivate Ginseng and get rich; sells for \$8.00 per lb.—1/4 acre yields in five years 2083 lbs. dried root, selling for \$16,664.00. Plant seed now. Package seeds and instructions on cultivation, \$1.00.

**JOHN FAGAN, St. Joseph, Mich.**

## COX SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

## BULBS

Now is the time to plant  
HYACINTHS, TULIPS, NARCISSUS,  
SPANISH IRIS, RANUNCULUS,  
ANEMONE, ETC.

Send for our Bulb Catalogue.

## FOR SALE.

100,000 Mission Rooted Grape Cuttings,  
30,000 Thompson Seedless Rooted Grape Cuttings,  
3,300 Assorted Peach Trees.

All Healthy and in Excellent Condition.  
For particulars, address E. R. DUBRUTZ, Public  
Administrator, Tulare Co., Cal.

## CHICO NURSERY Co. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS, BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get swamped with work next spring?

**CHICO NURSERY CO., 1200--3rd St. Chico, Cal.**

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous, Citrus and Ornamental Trees and Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

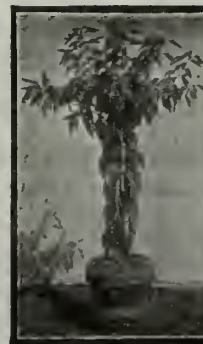
### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 18 **FRESNO, CAL.**



## PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased to send you one.

**SAN DIMAS CITRUS NURSERIES**

San Dimas, Cal.

# PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. **DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal. and 918 F St., Washington, D. C.**



The Unwise Dairyman never thinks when he buys.  
The Wise Dairyman often thinks too long before he buys.  
The Wiser Dairyman buys a De Laval first and thinks afterwards.

★ ★ ★ ★

## THE DAIRYMAN'S ENDORSEMENT.

400,000 machines in use.  
Ten times the number of all other makes combined.

### De Laval Cream Separators



Combined with patents "Alpha-Disc" and "Split-Wing" improvements. The standard of perfection in modern dairying machines.

Insures purity of product, saves time, labor and worry. Increases the value of every cow.

PERFECTION IN CONSTRUCTION.  
POSITIVE IN PERFORMANCE.  
ECONOMICAL TO MAINTAIN.

A DE LAVAL Catalogue may be had for the asking. A lesson in dairying on every page.

The largest and most complete stock of dairy apparatus and supplies on the Pacific coast carried by us. Full line constantly on hand.

Write for our catalogue—tells you lots about dairying.

**DE LAVAL DAIRY SUPPLY COMPANY,**  
9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE

★ ★ ★ ★



### PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up. Send for illustrated Catalogue with Prices.

**BURNHAM-STANDEFORD CO.,**  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.  
San Francisco Office, 40 New Montgomery St.

## Why Use Expensive Power?

PUMP, SPRAY, SAW WOOD, CUT FEED, CHURN,  
and do any other work better and cheaper with a

### 20th CENTURY WONDER

than you have ever done before.

USES FUEL AT 2c. TO 5c. PER GAL. 1½ TO 30 H. P. SIZES.

WRITE AT ONCE.

WONDER ENGINE CO, 321 Mission St., San Francisco.



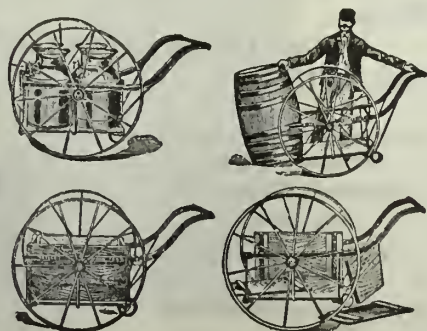
**RED CROSS WIND MILLS**  
ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURN-TABLE. SEND FOR CATALOGUE. MAILED FREE.

**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

**CHEAP RATES** California, Washington, Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

Telephone Main 199.  
**BLAKE, MOFFITT & TOWNE,**  
DEALERS IN PAPER,  
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.



### No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15.  
Handles barrels or four large milk cans. Steel frame and steel wheels.

**HOOKE & CO.**

16 & 18 DRUMM ST., SAN FRANCISCO, CAL

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

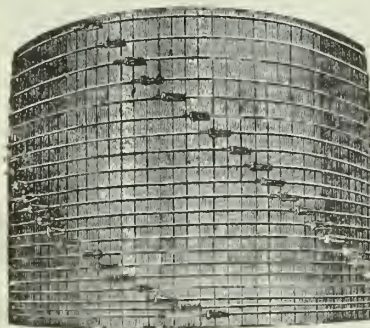
**ALLISON, NEFF & CO.**

FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**

Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.

### OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**

SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.

**C. A. HOOPER & CO., Agents,**  
204 FRONT STREET.....SAN FRANCISCO.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

<i>Chapter.</i>	<i>Chapter.</i>
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—

### GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
Vegetable Climate as Related to	Beet.	Radishes.
Vegetable Growing.	Cabbage Family.	Rhubarb.
Vegetable Soils of California.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Irrigation.	Celery.	Squashes.
Garden Drainage in California.	Chicory.	Tomato.
Cultivation.	Corn.	Turnip.
Fertilization.	Cucumber.	Vegetable Sundries.
Garden Location and Arrangement.	Egg Plant.	Vegetables for Canning and Drying.
The Planting Season.	Lettuce.	Seed Sowing in California.
Propagation.	Melons.	Garden Protection.
Asparagus.	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

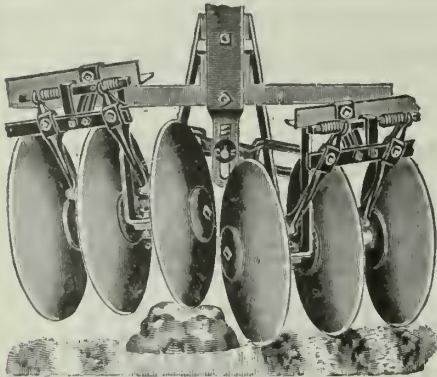
Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## DEERE Model B DISC HARROWS.

By means of the spring pressure, almost unlimited flexibility is secured, as shown in small cut below. Each gang is operated by a separate lever, making it easily handled, and also allowing the gangs to be run at different angles, which is often desirable on a side hill or when overlapping. Flexible scrapers, with a spring to EACH SCRAPER, are supplied with all Deere Disc Harrows.



Showing flexibility of gangs—one passing over obstruction, while the other remains at work.

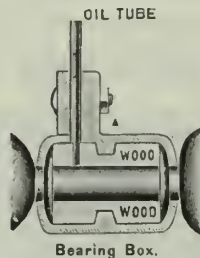
THE STEEL SHANKS prevent the frequent breakages due to the use of those made of cast iron.

Our  
Disc Harrow  
LINE  
is complete.

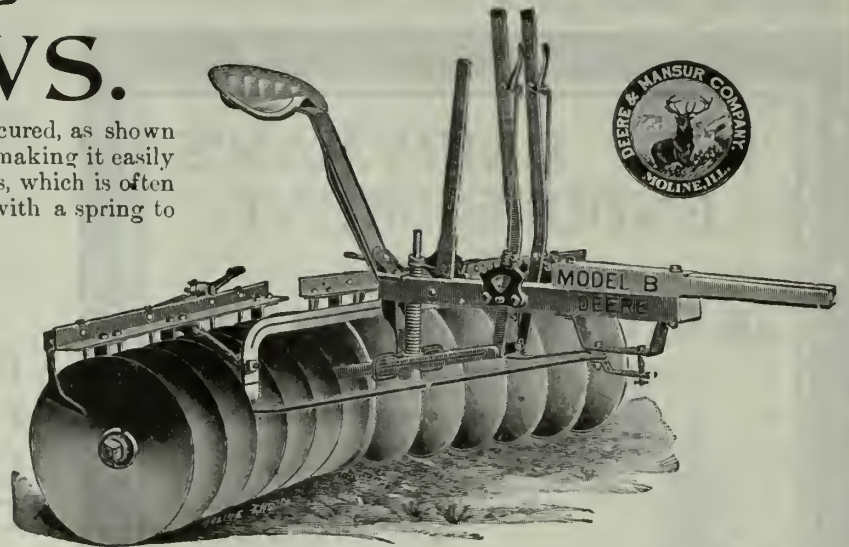
Write at once and secure the agency.

### Our Model F

is made especially for our California Orchards and Vineyards and is a Trade Winner. Send for special circular on this harrow.

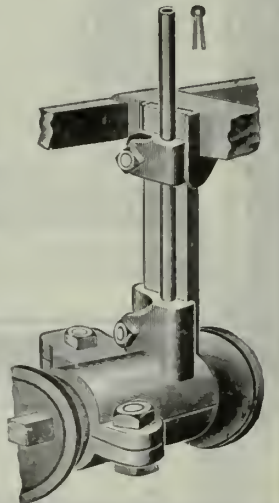


Bearing Box.



SPRING PRESSURE.

THE BEARING BOXES are as near dust-proof as it is possible to make them, and have bearing surfaces of wood soaked in oil, which, after several years of hard usage, have proven to be much more durable than iron—in fact, are practically indestructible. Each box is provided with a long oil tube, closed at the top with a spring cotter, insuring a free vent at all times.



The Steel Shank and Oil Tube.

**Deere Implement Company,**  
**SAN FRANCISCO, CAL.**

(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

## Would a La Crosse Disc Plow

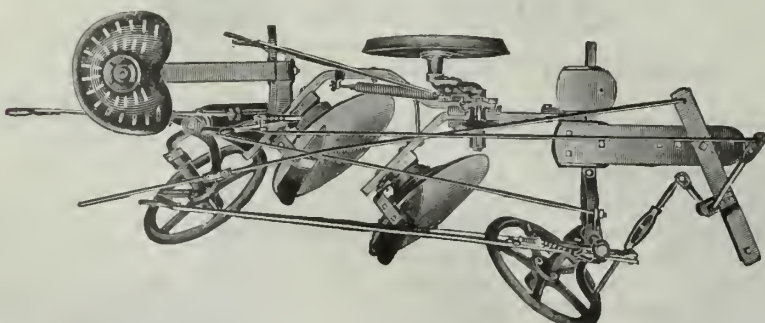
interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?  
If it will plow hard, dry ground with *less weight* than any other?  
If in many cases where other plows need some weight ours needs *none*?  
If it can be *turned to right or left* with equal facility?  
If it can cut an *eight, ten or twelve inch furrow* without changing the

frame?

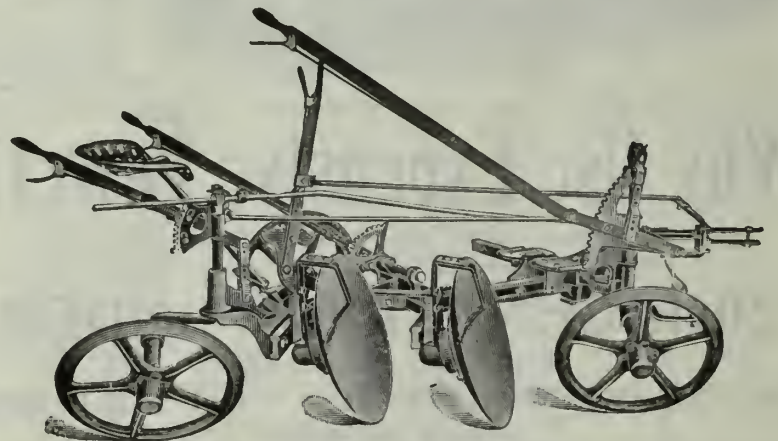
If the *discs* can be removed instantly without a wrench?  
If the disc bearings are *dust proof* and run in oil continually?  
If each wheel can be *raised or lowered* by an independent lever?  
If the *land gauge* is far superior to any previously invented?  
If the orchard type will run *closer to the trees* than any other?  
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

**HOOKE & CO.**

16-18 DRUM ST., SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 18.

SAN FRANCISCO, SATURDAY, OCTOBER 31, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## Grasshoppers in California.

From one point of view it is not a good time to talk about grasshoppers, because they are out of season; but from another point of view it is a good time, because, as these pests are not now threatening, one may take a more cool and comfortable thought about their performances. The last attack of grasshoppers in California was rather a sensational one, though it fortunately did not prove anything like as destructive as anticipated. Our readers will remember how excited the supervisors of some of the foothill and valley counties which touch each other became, and how they invoked the aid of the University entomologists, who did considerable fighting against the invading hosts. Prof. C. W. Woodworth of the University has written up the whole story, entomologically, and the information is available whenever the grass-

such a large extent of territory in a single season is quite remarkable. The actual numbers present in each of these regions was a great deal less than had been known in previous years. Had the numbers been as great as they have formerly been in these same regions, the total amount of injury would have been enormous.

It is not known exactly what the conditions are that favored the unusual increase of hoppers last year, but in every region where migratory locusts are prevalent this same sudden increase in seasons favorable to them is the common experience. The increase of the insects last year simply emphasizes the fact that California is one of the regions where the conditions are favorable to migratory locusts. In every part of the world where there is an arid climate, where grass-covered highlands exist with neighboring cultivated lowlands, migratory locusts

occurred there, still our orchards and vineyards are each year coming closer and closer to the breeding grounds. These interests can be so seriously injured by grasshoppers that the ques-

demand for it that cannot be denied. Orchard interests are too great to permit the destruction of any considerable areas of growing trees or vines when there is any hope that by prompt action



The Use of a Smudge to Avert Injury From a Vineyard.

hopper becomes again a pressing issue. The general reader may not be averse to having a few outlines of the California situation without waiting for such an outbreak. Prof. Woodworth locates the area of the last visitation over a very large section, including both sides

abound and do injury, the extent of which depends primarily upon the season, but also upon the extent of this bare, arid upland country, and upon its proximity to the cultivated lands.

The open pasture lands in California are very widely scattered over the



Addition of Sulphur to Make More Deadly Smoke.

of the Sacramento and San Joaquin valleys, and in southern California in a few places in Santa Barbara and Ventura counties and in the hill regions of San Diego county. The presence of considerable numbers of hoppers over

State and are in the aggregate quite extensive, though very insignificant as compared with those on the other side of the Rocky mountains. While we will not, for this reason, expect as great grasshopper migrations as have

tion of grasshopper control is even now a matter of extreme importance, the solution of which is becoming more and more imperative.

Prof. Woodworth believes that the danger from this insect could be almost entirely avoided if the proper provis-

these losses can be greatly decreased or entirely avoided. If left to go on as it is, there will be the demand on the part of the fruit growers each hopper year that infected pasture land be burned over, and this burning may at times cause more actual loss than the



Clearing a Margin Before Firing an Infested Pasture.

ions were made for the study of the problem and for the carrying out of a sound general policy in accordance with the facts so determined. At the present time the laws are such as to really prevent any concerted action; and no one has the exact knowledge of the breeding grounds or the habits of the insects there, to intelligently direct such action. Last year's experience very clearly brings out the necessity for concerted action, for providing the means of securing greater knowledge of the insect, and for adequate laws to deal with the hoppers in years when they are really highly injurious. There is no doubt whatever that each succeeding grasshopper year will bring the need of community action, and a

saving through the destruction of the hoppers. It will be as much to the interest of the owner of pasture lands as of the orchardists, that the matter be settled now, and settled right. The things to be done to bring this about are, first, to provide for obtaining the facts relative to the location of the breeding grounds, and the habits of the various species of locusts; second, the securing each year of enough information to allow the use of the most economical means for the destruction of the hoppers, and for provision for compensating those whose property it may be necessary to injure in the work; and, third, careful and competent supervision of every general effort communities may desire to make for their protection.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

**TWO DOLLARS PER YEAR IN ADVANCE.**

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.

Publishers

E. J. WICKSON

Horticultural Editor

SAN FRANCISCO, OCTOBER 31, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Vineyard After Grasshopper Visitation in San Jose; The Use of a Smudge to Avert Injury From a Vineyard; Clearing a Margin Before Firing an Infested Pasture; Addition of Sulphur to Make More Deadly Smoke, 273.

EDITORIAL.—Grasshoppers in California, 273. The Week, 274.

QUERIES AND REPLIES.—A Half-and-Half Apple; Nuts for Planting; Peach Growth Lacking Vigor; Treatment of Roots at Planting; Dry Lawns Impracticable, 274. Which Is the Best Place for Citrus Fruits? Dodder Again; Better Try Something Easier; Lawn Making, 275.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Oct. 26, 1903; Temperature and Rainfall, 275.

ARBORICULTURE.—Suggestions on Street Planting, 276.

HORTICULTURE.—A Glenn County Almond Orchard; More Date Palms Secured Abroad, 276.

FRUIT MARKETING.—Production and Consumption of Oranges and Lemons, 276.

THE DAIRY.—Alfalfa and Overflow, 277.

THE POULTRY YARD.—Behold the Perfect Hen; Petaluma Poultry Notes, 277.

RANGE INTERESTS.—The Situation in the Cattle Business, 278.

METEOROLOGICAL.—A Brief Discussion of the Season's Probabilities, 278.

THE STOCK YARD.—A Successful Fair, 278.

AGRICULTURAL REVIEW.—279.

THE HOME CIRCLE.—King Baby; When Mother Cans; Night of the Straw Ride; Fortunes on Finger Ends, 280. Hints to Housekeepers; A Pretty Woman; Domestic Hints, 281.

THE MARKETS.—Produce Market; Fruit Markets, 282.

THE IRRIGATOR.—Report of the Reclamation Service, 281.

THE APIARY.—Horses and Bees, 285.

THE VETERINARIAN.—A Statement From Dr. Blemer, 287.

MISCELLANEOUS.—New Patents, 283. The Money Value of Training, 286.

## The Week.

Readers will be pleased to have the assurance which Mr. Blochman gives upon another page that they can enjoy the heavenly weather to the utmost and have no apprehensions about not getting wet, though soon enough to serve the main purposes. Mr. Blochman shows that good years begin this way in his part of the State, and perhaps we are all to take comfort from his rule. Certainly, there has never been a year in which even the laziest man could get all his fall work done, and never a year in which the most active could take delight in merely living and being able to work in the open air. The warmth in the air, the haze on the hills, the moderated heat of the valley sunshine—the days are delights and the nights are charms. If the many home seekers now arriving in the State do not think they have struck the other side of Jordan, we doubt their ability to appreciate a good thing.

Spot wheat is about the same as at our last report, but the tone is better; futures have been down, but are recovering. Barley is firm and unchanged. Two full cargoes of barley have gone out; one barley and wheat and another largely canned fruits, honey, tallow and barley. Over a quarter of a million's worth of barley has passed the Golden Gate during the week, and wheat and flour together about two-thirds as much value. The total exports of San Francisco for the week reached a value of one and one-half millions. Minor cereals are unchanged and firm, except corn, which is weak. Mustard is doing a little better. Beans are quiet and mostly easy. Bran is in large supply, with a downward look, but unchanged as yet. Hay is stiffly held; 6400 bales have gone to the islands. First quality beef is firm; other grades and mutton unchanged, veal easy and hogs a little lower in sympathy with the Eastern situation. Butter is unchanged and all except fancy weak. Cheese is unchanged and all but mild new is in heavy supply. Eggs are dropping the highest figure, while trade is running on storage and Eastern at former prices. Poultry has been weak, but is closing better—young turkeys and large chickens still sell best. Potatoes are no better and onions steady. Apples and pears are selling as before; still, there is little fine and much poor fruit. Winter Nelis pears are going into cold storage. Table grapes are fairly steady and wine grapes weak and of poor quality. A few immature Navel oranges are still arriving; choice Valen-

cias are held higher and lemons are slow. Dried fruits are quiet and the kinds chiefly offered—apples, peaches and prunes—are rather weak. There is a free movement in prunes, but at concessions; 221,000 pounds went on two steamers to the Continent and 26,000 pounds other dried fruits to England. Raisin prices are fixed until February 1 and there is considerable movement. Almonds are steady and walnuts firm—the latter now being delivered freely. Honey is quiet and rather easy; 477 cases have gone out by sea, mostly to London. Hops are in better tone and unchanged. Wool is nothing here and there is complaint of cut rates in the interior.

Eastern fruit shipments for this season to Oct. 27 were 7093 cars, as against 6848 to the same date last season. This year's grapes have had unusual chance to ripen fully and firmly and Eastern buyers appreciate the fruit they are getting. The same thing is true of other late fruits, and the quality of the fruits coupled with the California style of packing is making a way for the product right in advance of the local supplies. The disposition to talk down and write down the fruit product as likely to be in excess and unprofitable seems to have passed over. A few people get an attack of that kind of horticultural mulligrubs every little while and there is nothing to do but let them get tired of it. It is a funny thing (which people ought to be able to understand, however), that those who do most croaking have most fruit of their own and are apt to be planting more at the very time they are kicking most actively against planting. If you know as well as they do how to grow the fruit and have as good a place as they have to plant it, you can croak too and send your order to the nurseryman for some more trees just as they do.

The California Live Stock Breeders' Association—the organization of which at the State Fair we fully noted at the time—has issued a circular of information, in which its purposes are described to be to encourage the breeding of pure-bred live stock, to improve the breeds of domestic animals in California, to secure adequate recognition of our animal industry from the State Legislature and public officers, to provide for a comprehensive plan of agricultural education, to collect live stock statistics and disseminate information respecting the superiority of pure-bred animals, to hold live stock conventions, to promote live stock exhibitions, to enlarge the usefulness of the State Fair, and in general to contribute to the prominence of California as a live stock-breeding center. These are all praiseworthy motives, and we shall look with interest for their advancement. It is not going to be possible to hold a stock show in this city during the winter, as expected, but something great in that line may be looked for later. The president of the Association, Mr. E. W. Howard, is giving much time to the promotion of the Association and hopes to have the help of all who believe in its purposes. He visited the Hanford fair recently, and some notes of his observations there may be found upon another page. The secretary of the Association is Mr. N. A. Chisholm of Jacinto, Glenn county, and he will give all desired information about membership. It is very desirable to have a full membership before the next meeting of the directors, which will be held in this city December 15.

Preparation of exhibits for the St. Louis fair is proceeding rapidly. Late fruits are going forward by the carload to be put in cold storage in St. Louis, so that the display may open up early in the spring with fresh California fruits on deck. Meantime the work of putting up in preservative liquid continues in all parts of the State. The Sacramento Development Association is gathering its fruits at the State Fair pavilion, and a local account says that upwards of 2000 jars have been placed upon terraced shelves in a dark room 65x25 feet, for until ready for shipment these fruits must be kept in the dark. This room is made of black paper, closely placed, and with a high roof over all. It is provided with electric lights, however, that the exhibits may be exhibited to the public. One who has seen says that remarkable success has been attained in preserving natural colors, both in fruit, bark of trees and foliage, and in such green plants as alfalfa and the grasses. Work in the experimental direction will soon begin upon flowers. California bids fair to make a great show.

## QUERIES AND REPLIES.

### A Half-and-Half Apple.

TO THE EDITOR:—Will you kindly state if in your opinion it is possible to originate from two distinct varieties an apple in which the respective qualities of those two varieties are clearly defined and separate in the two halves of the apple.—HORTICULTURIST, Placer county.

According to our best information and belief it is not possible to originate from two distinct varieties an apple which will be half of one and half of another. It is claimed once in a while that this can be done by splitting the buds at budding time, and that the two faces of the bud will grow together and they two will grow a shoot which will be half of one and half of the other, and that the fruit when it comes will be half of one and half of the other. We have no belief that this has ever been done, nor expectation that it ever will be.

### Nuts for Planting.

TO THE EDITOR:—I am interested in a plantation in the State of Oaxaca, Mexico, and we are establishing an experimental garden there, and desire to procure seeds for growing walnuts and almonds and other nuts. Would the commercial nuts from our stores answer for seed planting?—READER, Minneapolis.

Nuts taken from commercial supplies do not in any case germinate freely enough to make them suitable for growing seedlings, and when the nuts have been sulphured or bleached to give the light color so acceptable in the market, they are almost useless for seed purposes. The way to get good results is to secure nuts which have been properly cared for for seed purposes from the time of gathering, and you can get such nuts of the different varieties of walnuts, almonds and chestnuts from our California nurserymen.

### Peach Growth Lacking Vigor.

TO THE EDITOR:—I send some leaves which I beg you to be kind enough to examine and let me know through the columns of your paper what ails my trees and the remedy for it?—OLD SUBSCRIBER, Chico.

We find nothing indicating disease except a little leaf spot—not enough to do any harm. The leaves are rather scant in size and the new growth slim and shriveling. The growth looks as though a little better cultivation or a little more water in the form of midsummer irrigation would have brought the trees to the close of the season with more vigor.

### Treatment of Roots at Planting.

TO THE EDITOR:—Having your "California Fruits," we have vainly searched it for instructions as to pruning the roots of 1-year-old trees, when they are being planted in the orchard. We should, therefore, be much obliged if you would kindly say whether the side roots and rootlets should be cut off entirely or pruned; also, whether the tap root should be pruned or not.—PLANTER, Burson, Calaveras county.

On top of page 105 in "California Fruits," third edition, you will find a discussion of the treatment of roots of fruit trees at transplanting. Lateral roots, which are large enough to be fresh and lively, should be retained, but small fibrous roots are generally dead before transplanting and are of no use to the tree. The larger roots should be from 6 to 10 inches in length from their forks and should have freshly cut ends at transplanting. The tap root should not be differently treated from the larger laterals. If the tree has a habit of deep rooting, it will send down roots just as well when the tap root is shortened in this way. Fruit trees will, under favorable circumstances of moisture, soil, etc., grow well even when their main roots are shortened considerably more, but in order to hold the young tree well in the soil and to bring new roots down where the moisture will remain it is better under ordinary conditions in California to have the roots of about the length stated.

### Dry Lawns Impracticable.

TO THE EDITOR:—Can you give me the name of some good lawn grass that will withstand considerable drouth, say something that would flourish with irrigation about every three weeks; also say where it can be obtained.—DRY LAWNS, Oroville.

We are very sorry that that we do not know any lawn grass which will make good summer growth with irrigation only once in three weeks unless it be Bermuda grass, and Bermuda grass is objectionable because it will spread very rapidly into places where you do not wish to have it and is almost impossible to



eradicate. Another objection is that it does not grow during the frosty season, but is brown and unhandsome all during the winter when other grasses which require more summer irrigation will look well with the winter moisture. Australian rye grass will make a quicker spread than Kentucky blue grass and it will perhaps look fairly well with a little less water, but if forced to grow without much attention it becomes stemmy and bunched. We have about concluded that, if it is worth while to have a lawn at all, one had better put in Kentucky blue grass and white clover and then give it the amount of water and work which are necessary to produce a handsome effect during the dry season.

Which is the Best Place for Citrus Fruits?

To THE EDITOR:—I have been in correspondence with the boards of trade of several counties of California and they have all recommended their district to me as the "best" place to grow oranges and lemons. So, naturally, I am somewhat in doubt as to which place is really best. Perhaps they are all, in fact, "best." Perhaps one place is as good as another, providing the place is in the orange belt. The opinion of any authority upon this matter will be of great value to me, and I will be very thankful to you if you will favor me with an opinion on the matter. I have read a great deal of Orland, Palermo, Oroville, Fresno, Rocklin and some other places; but I am favorably impressed with Orland, Glenn county, as an excellent locality to grow lemons and oranges for the market, and I read that Orland soil is particularly suited to the lemon. Now, am I correct in my conclusion? Is this climate and soil just right at this place for the culture of citrus fruits? Or do you believe some of the other places named to be a better place than Orland? When I obtain all the information I can relative to place, soil, etc., I intend to make a personal inspection of the place which is best recommended.—INVESTIGATOR, Indianapolis.

First, there is plenty of soil in the Orland district which is well adapted to fruit growing, being of a deep alluvial character. There are also scattered places where the underlying clay, which is rather poor, comes so close to the surface as to make the land unsuitable for fruit growing, both because of lack of depth of rich soil and because of lack of drainage for surplus water. No examination of a sample of the soil from that district would, therefore, be true of all lands in the district, and you can only be sure of the satisfactory character of a soil by a local digging or boring in several places to ascertain the general character of the piece of land which you contemplate purchasing. For this reason you should not make any arrangements at all until you have an opportunity to see the land and make such investigation in your own interest and satisfy yourself as to the quality of the tract which is offered to you.

As to the suitability of the soil to the lemon, more particularly than to the orange, we can only say that we grow both lemons and oranges by budding upon the orange root, which makes the same requirements in soil whether it carries an orange or a lemon tree above it. The question of suitability of the locality for the lemon, then, supposing that the soil is fit to carry an orange root, depends largely upon the temperature; the lemon tree is a little more liable to frost than the orange, consequently should be in a more equable climate; that is, where there is least danger of dropping far below the freezing point. In many parts of California lemons are being grafted over to oranges, because the opportunity to market oranges seems to be better than lemons; in fact it is quite a question whether the lemon area should be extended until better outlets are in sight for the fruit. As oranges ripen earlier in the upper part of the State than in the southern part, they seem to have at present a little advantage in the markets, and it is on this basis that orange planting is now quite popular in the upper part of the State.

As to the comparative value of the different places which you mention, we doubt if any clear superiority can be demonstrated. With good soils and favorable situations in all of the districts you mention it is possible to produce about the same type of fruit. They are all very much alike in the matter of climatic conditions. It would be wisdom on your part to come to California without having reached definite conclusion as to which point you should select. You can easily visit several of them and convince yourself as to their relative suitability for your purposes. The essential conditions in this matter are not geographical, but are local soil conditions, local climate, and an ample supply of water at reasonable rate.

Dodder Again.

To THE EDITOR:—I send you a stem of alfalfa with a growth on it called here "love weed." Please inform through the PACIFIC RURAL PRESS the best method to get rid of it. It is spreading very fast in this part of the State. It kills the alfalfa in a very short time, in three or four weeks where it starts. There is not a particle of alfalfa left and it dies itself but still spreading in the outer circle. It is also spreading in other crops. Let us hear from you soon as there is no time to lose to get rid of it.—ALEX GORDON, Ventura county.

This is another outbreak of dodder of which we have had several paragraphs in these columns during the last few weeks, and we have told all we know about getting rid of it. You will find accounts of repressive measures in the issues of August 15th and September 12th, and on page 252 of last week's issue you will find the Tulare method of treating doddered alfalfa, by pasturing closely during the hot weather, thus cutting off the seeding of the pest and checking its progress. This wretched parasite is taking a wider range each year owing to sowing alfalfa seed harvested from doddered fields. No man has any moral right to sell seed from such a field. There ought to be a law making it a misdemeanor.

Better Try Something Easier.

To THE EDITOR:—Are there any ginseng gardens on this coast that are successful, and where? How about growing rue, tansy and sage? Do you know of any plant that could be grown by a lady—one that would be of profit and adapted to garden or small piece of ground? Is there a ready market for rue or tansy?—SELF-HELP, Fowler.

As for ginseng, it is very doubtful, indeed, whether it will be found successful in California. Even in the humid atmosphere of the East it requires partial shade. The probability is that it will not be successful at all in drier, hotter parts of California, and there is no encouragement for any one to undertake ginseng growing except for the purpose of satisfying himself by a local experiment. All the herbs you mention will probably succeed in California in suitable situations; some require more moisture than others, and it is doubtful whether any large collection of herbs will succeed in any one place. Beyond all this, however, is the fact that there is no adequate market for such product. The herb trade is regularly organized and conducted mainly by the Shakers in the Eastern States, and they could readily supply ten or a hundred times as much as they are now growing if the market called for it. The local trade in California is so small that no one would be warranted in undertaking production for it. The chief chance of success in California is to grow some common thing which is widely called for. Common garden vegetables are sold more easily and are more profitable than any of the rare things for which the public has little need. If one can succeed on a small piece of ground, by the free use of irrigation water and fertilizers, in getting good fresh vegetables at the times of year when the supply is rather scant, there is usually a good profit in it. What can be done in this direction in any locality must be ascertained by a careful effort for general information on the subject as applied to California and by experiment in the different localities.

Lawn Making.

To THE EDITOR:—When is the best time to put in a lawn on sediment loam which is not very rich? How much seed is commonly used? Should all the weeds be pulled by hand, or is it enough to mow them down with the mower? Should the seed be raked in or simply sowed on top of the ground? Is it necessary to cover with manure or compost?—E. P., Gilroy.

The best time to put in a lawn on such soil as you describe, and which is not subject to standing water, is as soon in the fall as the ground becomes deeply moistened by the rain or by irrigation. There are some places where the winter is so cold and rainfall so abundant that spring starting of lawns is preferable, but under ordinary conditions in California the fall is the better time. It is usual to sow about sixty pounds Kentucky blue grass seed to the acre, or, if you desire a blue grass and clover lawn, add about eight pounds of white clover seed to the acre. Cover the seed by a light raking. Our experience is that many of the weeds which appear in new lawns can be subdued by keeping the lawns well cut. Other weeds must be hand pulled. We usually begin with a lawn mower as soon as the grass is about two to three inches high and follow by hand pulling of the strongest

growing weeds. A little later it is well to make a systematic weeding. After that continue with the mower, only pulling weeds occasionally as they become obtrusive. On such soil as you describe, and especially in the autumn, you can sow seed without top dressing of manure with very good results and with very many less weeds, because in almost all cases the fertilizer used contains many weed seeds. We are inclined to think that, as a rule, it is better to make lawns without top dressing and to maintain them by the use of commercial fertilizers.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending October 26, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Warm and clear weather continued during the week, with light winds. Fruit drying is nearly completed and most of the crop is under shelter. The second crop of wine grapes is being gathered and shipped. Heavy shipments of table grapes continue, and it is reported that the grape shipments from Sacramento this season are nearly twice as much as last season's. Tree pruning has commenced in some places. Citrus fruits are in excellent condition; oranges are coloring rapidly and prospects are good for an unusually early and heavy crop. Plowing and seeding are progressing in some sections, but will not become general until rain has fallen. A heavy rain would be beneficial to pasturage.

Coast and Bay Sections.

Warm weather prevailed most of the week, with heavy fogs all along the coast. Forest fires caused some damage in the hills near Hollister. Deciduous fruits are mostly dried and under shelter, but there are considerable quantities of late prunes on the trays in the southern districts. Apples are plentiful and of excellent quality at San Luis Obispo. A large crop of wine grapes has been gathered and crushed in Sonoma county. Tokay grapes are still plentiful in the Vacaville district and large shipments continue. Tomatoes, late apples, celery and cauliflower are being harvested and shipped. Farmers in San Benito county are preparing to seed a large acreage for the coming season. Plowing has commenced in a few places. Feed is scarce.

San Joaquin Valley.

The weather continued clear and warm during the week and rapid progress was made in fruit drying and raisin curing. The second crop of raisins is mostly on the trays and making satisfactory progress; the yield in some places is reported light. Heavy shipments of the first crop of raisins are being made from the Fresno district, where the yield is reported much greater than last season's. Prune drying is practically completed; the fruit is of unusually good quality, but the yield is generally below average. Oranges continue in good condition and are coloring rapidly. The last crop of alfalfa has been secured and threshing continues. Pasturage is scarce, but cattle are healthy and in good condition. Plowing and seeding are progressing.

Southern California.

Clear, warm weather prevailed during the week, with fogs along the coast. Conditions were favorable for fruit drying and raisin making. Raisins are drying slowly and evenly and large quantities are going to the packing houses; several carloads have been shipped east from San Diego. Fruit drying is nearly completed. Citrus fruits are in excellent condition and coloring rapidly; it is expected that the orange crop will be much above average in quantity and quality. Walnut picking continues; the yield is below average, but the quality is reported good. The honey yield is reported excellent. Beans and sugar beets are nearly all harvested.

LOS ANGELES SUMMARY.—Warm, dry weather materially aided prune and raisin curing, which are so far advanced as to be safe from damage by rain; oranges are maturing rapidly. The walnut crop, though short, is of better quality than for years.

EUREKA SUMMARY.—Dense fog along the coast all the week; clear and warm in the interior, where rain is badly needed. Harvest is practically completed, except potatoes. Apples are progressing satisfactorily. Low lands are in good condition for plowing.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, October 28, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka.....	T	3.24	2.71	3.47	64	42
Red Bluff.....	.00	.44	3.44	1.57	90	50
Sacramento.....	.00	.14	1.67	1.09	82	48
San Francisco.....	.00	.17	1.70	1.23	76	52
Fresno.....	.00	.00	.42	.63	90	46
Independence.....	.00	T	.38	.47	76	46
San Luis Obispo.....	.00	.02	2.00	1.54	80	44
Los Angeles.....	.00	.43	.39	.63	88	48
San Diego.....	.00	.06	.98	.42	74	52
Yuma.....	.00	.62	.11	.85	94	52



## ARBORICULTURE.

## Suggestions on Street Planting.

From an address by DR. W. L. JEPSON, of the University of California, at the Town and Gown Club of Berkeley.

I take it for granted that no plan of town improvement will appeal to the members of the club unless it be a plan which is comprehensive, a plan which is based upon fundamental principles, first of all, with the betterment of the town as a whole, not with the character of a particular quarter or of a particular street or a particular lot.

The club would refuse to put the seal of its approval upon a plan which is partial or a plan which is makeshift in its nature or one temporary in character, or one which considers one portion of the town and not another. As an organization, you are concerned, and one which has, therefore, (and this is the most important point) the character of permanency. This plan must not merely consider the present, but look well into the future; it must weigh the welfare of the town, and the common blessing of its people to-morrow as well as to-day.

**A FUNDAMENTAL PRINCIPLE.**—As to the plan itself, the first principle in regard to the treatment of streets is this: On all trees that are to be planted, the trees must be set in a row parallel with the street at uniform distances. The second principle is this: One kind of tree must be used on both sides of the street, and only one. The street is a straight line. It is a geometrical figure and must be treated accordingly. By planting one kind of a tree we secure in this way, and only in this way, uniformity of treatment. This uniformity is pleasing; it is pleasing because there is harmony between the line of streets and the immediate surroundings. We must always remember that the street is an informal place, and, in order to secure gratifying results, there must be formal treatment. Again, such treatment is pleasing because it insures perspective; it gives the effect of distance, which is so exceedingly desirable. "An avenue of American elms in a New England city, with their leafy, overreaching tops, is always beautiful," says Sargent, "because the charm of each tree is renewed in the next, and the effect of the whole is constantly intensified and multiplied by repetition." There is here unity of character; there is here consistency in expression.

"These are, of course, not new canons of taste. On the contrary, they are of the oldest, as witness Old World and Eastern cities. A long avenue of stately trees is one of the things which satisfy a longing in the heart of a highly civilized man; that it is satisfying, our literature and our poetry give ample evidence. Still it is not necessary that the entire length of a street must be kept to one kind of tree. One may, indeed, for obviously good reasons, change every few blocks. However, in our main streets which run from the hills to the bay, we are given a splendid opportunity to use one tree for the whole length of the street, with unexcelled effects such an opportunity for planting in this way should not be neglected. Any change in the species on these streets would, I am sure, be sharply challenged by the eye.

**ADEQUATE DISTANCES.**—Trees should be planted not less than 50 feet apart. This seems to be fundamental. The principle touches closely our everyday experience. No one will tolerate the shutting out of light and sunshine, the rendering of houses cold and dark and deep by an interminable barricade of foliage. Moreover, the tree should have an abundance of room in which to develop, not merely in the next five or ten years, but in the next fifty or one hundred years. The trees should not only not deform one another by crowding, but the observer should be granted the pleasure and suggestiveness of outlook or vista in every direction. The esthetic senses are not only satisfied for this reason, but the person of taste is consciously or unconsciously delighted that the trees show one another consideration; that they do not crowd or vulgarly elbow each other; that there is, in short, something in fine dignity in their relations.

**THE IDEAL STREET TREE.**—As a fourth principle I would say street decoration should be those sorts which will meet the requirements of a street tree. The ideal street tree is a tree which grows a fair height; it is one which throws its branches high; it is one which, being planted in opposite rows, gives an architectural effect to the street.

The ideal street tree is a deciduous tree. This is, in our climate, a fundamental condition. Evergreen trees, if planted, should be planted sparingly; but I conceive that such might be used to advantage on a few north and south streets, provided that light foliage forms were selected. A street so planted has a freedom of view below, and, on account of the erect or ascending branches and the distance at which the trees are planted, gives a pleasing amount of outlook from a higher station than the level of the street.

There should be no experimenting on the streets; the trees used should be tried sorts, which have been found to be satisfactory. Let other people do the

experimenting; let us profit both by their failures and their successes. But let us, at all hazards, keep off the street trees which are not street trees, as, for instance, palms and low-spreading shrubs. One may plant very small trees or trees which may attain great size; all this is a matter of taste. But the street is no place for shrubbery; the street is, first of all, a thoroughfare, and no one should be permitted to interfere with free passage.

**SELECTING TREES.**—Professor Jepson suggested that it would be advisable for a town to be divided into fairly natural areas for the purpose of planting, and that while certain kinds of trees may be used to advantage in all parts of the town, certain districts require a special sort. The varieties should be selected with regard to slope, altitude, soil and as the most available for street purposes were the American elm, catalpa speciosa, linden, English elm, silver maple, poplar, single white hawthorne, oriental plane, scarlet maple, red flowering chestnut, white birch (erect form), tulip tree, purple leaf maple, palms, California maple, acaecia, lineata, pecan, maytinus (boaria), sycamore, maple. In conclusion Dr. Jepson said there are a great many more trees that could be added to the list, but this would serve as a basis to the work. In the above list few evergreens have been mentioned, and no rare trees. The climate of Oakland and Berkeley, and the soil of these towns are so favorable to exotics that a fine avenue of a rare tree would be a decided acquisition and would be one of the memories of travelers and tourists, of whom an increasing number are yearly visiting this city. The speaker thought the best plan of street improvement would be by means of the town government, through the provisions of an ordinance framed for this purpose. In this manner, with a municipal officer to look after the systematic care and cultivation of trees, it would be possible to secure something of conformity and system in beautifying the streets. It was suggested that if the present city charters are not ample enough to provide for such work that there should be amendments or new legislation, and the powers of the municipalities so extended as to permit them to undertake such improvements as well as beautify the streets.

## HORTICULTURE.

## A Glenn County Almond Orchard.

One of the finest almond orchards in the State is that of P. D. Bane, near Orland. It consists of thirty-three acres of almond trees, of which twenty-nine acres are of the Hatch varieties and in bearing. The other four acres are of mixed almonds, and the trees are too young to bear. The I X L and the Ne Plus Ultra are soft shell, while the Nonpareil is a paper shell almond. This orchard is ten years old. The orchard is planted on the hexagonal or triangular style, 25 feet apart, and in many places the trees are touching and overlapping. No irrigation has been resorted to, only plenty of simple cultivation being employed.

The Willows Transcript gives an interesting account of this orchard. Since the trees have become old enough to bear, there never has been a total failure of a crop, and for the past two years the output has been seventeen tons each year, which were sold for 10 cents and 11 cents, respectively, per pound. Mr. Bane does most of his own cultivation, but during harvest time employs about twenty helpers.

The size and quality of the almonds grown in this orchard are attracting buyers from far and near. This year's crop was purchased by a Chico buyer for a Chicago firm, and so well was this firm pleased with the nuts that they have stored them at Orland for the holiday trade, as they expect to place them in small lots in many cities of the East before shipping.

**MODE OF GATHERING CROP.**—The mode of gathering and handling the almond crop at this orchard is as follows: From three to four sleds, each drawn by two mules, are used. These sleds have two pieces of canvas tacked on one side, and each sled is about 4 feet wide and 24 feet long. By the time the canvas is attached to the sleds the ground space covered is 24 feet square. The sleds are drawn so that they stop midway of a row and a few feet from the trunk of a tree. The canvas is then spread around the trunk and the almonds are knocked off with long bamboo poles. From two to three men are employed with each sled. When the nuts are all knocked off the canvas is gathered up and the nuts are rolled into the sled. When these are full they are sacked up and set to one side, ready to be taken to the huller.

**HULLING.**—The huller, with its attachments, is said by all who have seen it to be the most complete and unique affair in the State. Mr. Bane has spent much money and time in his endeavor to facilitate labor and lighten the work of his help, and, if we are any judge of such equipments, we claim that success along this line has crowned his efforts. It would be rather difficult to explain the workings of the machinery, how the nuts, hulls and all are dumped into the hopper, from which they are carried into the huller; how the nuts come out at one place, the hulls at another;

how they are carried by drapers to the sorters, who pick out the cracked ones, etc.

**CURING.**—The almonds have to go through several processes before they are ready to be sacked. They are first put out on trays to dry after being hulled. Then they are dipped into a vat of cold water to moisten the shells in order to bleach them. They are then spread out to dry, after which they are dumped from the trays into a large hopper and sacked. Each variety is kept separate and distinctly marked on the sack.

The huller and its attachments are run by a gasoline engine, distillate being used for fuel. A very handy and comfortable building has been erected for the huller and its operators, with plenty of ventilation and light, and everything has been done looking to the comfort of the latter, the entire arrangement showing much thought and ingenuity.

**YEARLY COST OF AN ORCHARD.**—When compared with a fruit orchard, the cost of pruning and cultivating an almond orchard is about the same. Gathering, hulling and sacking are, of course, more of a cost, but when the selling price is considered, it is readily seen that in point of value of the crop there is no comparison. The cost of cultivating and pruning an orchard is about \$7.50 per acre annually. The cost of harvesting depends greatly upon the season. Some years the nuts fall from the trees much easier than others. Much also depends upon the size of the crop, as a heavy crop can be gathered nearly as cheaply as a light one, the only extra cost being in the hulling. If the crop is good the cost of gathering and getting ready for market will be from 2½ to 3 cents per pound; if light, from 3 to 4 cents. These figures can be modified some if help be plentiful. Wages regulate the cost to a considerable extent. Now let us, for an example, take the highest figure and apply it to Mr. Bane's crop of seventeen tons and see how it will compare with other pursuits. He sold his crop this year for 10 cents per pound, or \$3400. To this must be added half a ton of meats—nuts that were cracked by the huller and not counted in with the crop—about \$200 more, making a total of \$3600 taken from twenty-nine acres of trees. Now we will say that it cost 4 cents per pound to harvest the crop—which it did not do. This would mean a cost of \$1440, leaving a balance of \$2560, which in itself is not a bad item. But as the cost of gathering was but 2½ cents per pound the showing is still more flattering.

The almond is the earliest blooming tree we have, and is, therefore, liable to be caught by the March frosts, but as they will stand a 30° freeze these dangers can be lessened by a judicious selection of locality.

## More Date Palms Secured Abroad.

Mr. E. Brankman of Walters (on the Colorado desert region), writes to the Los Angeles Herald about getting suckers of choice date palms from abroad. Recently B. Johnson went to Algiers, Africa, and secured, not without trouble, 150 choice date offshoots. The Algerians jealously guard the exportation of date palms, fearing foreign competition. As Mr. Johnson is familiar with the French language, he gained some of the French officials over to his side, who aided him in getting the desired varieties. It may not be generally known that the climatic conditions for growing dates on the Colorado desert are superior to any other place in America.

As Walters has an abundance of artesian water there is no reason to doubt that in the near future the region around Walters will be dotted with date groves. Several parties are preparing to plant seedling groves, as standard varieties of date palms cannot be had. It costs a snug sum to get offshoots, as Mr. Johnson can testify.

## FRUIT MARKETING.

## Production and Consumption of Oranges and Lemons.

From UNITED STATES CONSUL R. M. BARTLEMAN, Cadiz, Spain.

I submit herewith some interesting statistics concerning the production and consumption of oranges and lemons, translated from a recent publication of the Ministry of Agriculture, Industry and Commerce of Italy.

**FRANCE.**—The greater quantity of oranges and lemons consumed in France are imported from Spain. Bordeaux imported during 1900 203,108 pounds from Italy, 161,770 pounds from Spain and 11,000 pounds from Algeria. Lyons imported 176,000 pounds from Italy and 110,000 pounds from Spain. Marseilles imported 4,220,000 pounds from Algeria, 3,018,700 pounds from Spain and 2,015,400 pounds from Italy. Paris, during the first three months of 1901, imported from Spain 36,494,900 pounds, from Algeria 3,392,600 pounds and from Italy 2,731,400 pounds.

**GERMANY.**—Germany imports more and more each year, Hamburg being the center of distribution, not only for the Empire, but for Denmark, Sweden, Nor-



way and Russia. From July 1, 1900, to June 30, 1901, Hamburg imported 800,000 boxes from Italy, 280,000 boxes from Spain and 5000 boxes from Syria. (The Spanish boxes contain twice as many oranges and lemons as the Italian and Syrian.) In 1900 Berlin received 102,850 pounds from Italy and 34,207 pounds from Spain. The principal towns in Germany where there is great demand for this fruit are Cologne, Dresden, Frankfurt, Kiel, Leipzig, Mannheim, Stettin, Munich, Nuremberg and Stuttgart, which in 1900 imported 25,715 tons from Italy and 8552 tons from Spain.

**GREAT BRITAIN.**—The greater part of the oranges consumed in England come from Spain and the lemons from Italy. Cardiff receives about 50,000 boxes of oranges and 8000 boxes of lemons from different countries, and double the quantity could be consumed. Glasgow receives about 245,000 boxes of oranges from Spain, 26,000 boxes from Italy, 12,000 boxes from Palestine, 2000 boxes from California and 1000 boxes from Jamaica and Florida; in addition to which it receives some 50,000 boxes of lemons from Italy. Liverpool receives 866,910 boxes of oranges from Spain and 26,422 boxes from Italy, as well as about 285,000 boxes of lemons from Italy. London received during the first six months of 1900 (place of origin not stated) 1,448,050 boxes of oranges, and for a like period in 1901 1,415,277 boxes of oranges and 239,103 boxes of lemons.

**GREECE.**—Greece exported in 1898 oranges and lemons to the value of \$44,901; in 1899 to the value of \$68,647.60.

**ROUMANIA.**—Roumania receives large quantities of oranges and lemons, the normal imports amounting annually to about 5600 tons, mainly from Turkey and Italy.

**RUSSIA.**—The principal supply of Russia comes from Italy, lemons ranking first. The same holds good for Finland, which in 1900 imported oranges to the value of only \$7057, but imported lemons to the value of \$67,955. At Batum there arrived from Sicily during the year 1901 18,627 boxes, of which lemons constituted 60%. Helsingfors received, in transit for Germany, during the same year, 158.4 tons of oranges and 29.7 tons of lemons. Moscow receives nearly all its fruit from Italy. Odessa receives annually 385 tons from Italy, 220 tons from Turkey and 5.5 tons from Greece. Revel, Riga, Libau and St. Petersburg also receive large quantities by sea, or in transit, via Odessa, Taganrog, Trieste, Hamburg, etc. The imports of oranges into all Russia in 1901 amounted to 26,841 tons and the imports of lemons to 25,580 tons.

**SERVIA.**—Servia receives its fruit almost wholly from Italy. Of a total import of 179 tons, however, only 18.6 tons are consumed in the country, the rest being re-exported.

**SWEDEN AND NORWAY.**—In 1899 Christiania received 3858 tons of oranges and lemons, one-third of which came from Italy. During the same year Stockholm received 3082 tons of oranges, valued at \$22,804, of which 890 tons, valued at \$75,890, came direct from Italy, and lemons, valued at \$4277, also from Italy.

**SWITZERLAND.**—Switzerland imports oranges and lemons annually to the amount of 2678 tons, chiefly from Italy and Spain.

**TURKEY.**—Turkey produces a great quantity of oranges and mandarines; nevertheless it imports lemons from Italy, Syria and Tripoli. The same may be said of Smyrna, Trebizond, Saloniki, Monastir, etc.

**SOUTH AFRICA.**—Cape Colony imports these fruits from the Canary Islands, Madeira and Natal and some from Italy.

**EGYPT.**—Egypt imports chiefly from Turkey and Italy in great quantities.

**ARGENTINE REPUBLIC.**—The Argentine Republic is reducing its importations, owing to the increase of the home production and that of Paraguay. In 1898 Italy sent thereto 113,000 boxes of oranges and 20,863 boxes of lemons; in 1899, 433,000 boxes of oranges and 19,876 boxes of lemons; in 1900, 1,038,000 boxes of oranges and 13,484 boxes of lemons. Spain and Brazil sent small quantities. Other South American republics do not import this fruit, while some export in small lots.

**CANADA.**—Canada receives its oranges and lemons from Jamaica, California, Florida and Italy.

**AUSTRALIA.**—Australia receives about 12,000 boxes of oranges and 28,000 boxes of lemons. All come from Italy.

**UNITED STATES.**—In 1900 Chicago received from Italy 45,900 boxes of oranges and 2,150,000 boxes of lemons; from California, 8,000,000 boxes of oranges and 800,000 boxes of lemons; from Jamaica, 800,000 boxes of oranges; from Florida, 1,000,000 boxes of oranges. The receipt of oranges at New York in 1901 was as follows: From Italy, 2934 tons, valued at \$113,915; from Mexico, 3900 tons, valued at \$136,926; from the British West Indies, 16,925 tons, valued at \$444,044; from Japan, 186 tons, valued at \$7751; and lemons from Italy, 72,335 tons, valued at \$3,412,308; lemons from Canada, in transit, 1101 tons, valued at \$98,030.

As the production in the United States (California and Florida) increases each year, in a very short time the United States will have to look for a foreign mar-

ket for its enormous production. The production of oranges in the United States amounts to 12,000,000 boxes per annum, of which 10,000,000 boxes are produced in California and 2,000,000 boxes in Florida. The consumption of lemons in the United States amounts to 3,000,000 cases per annum, of which 1,000,000 cases are produced in California, the remainder being imported.

## THE DAIRY.

### Alfalfa and Overflow.

Mr. W. J. Spillman, who is at the head of the forage plant work of the U. S. Department of Agriculture, gives the Breeders' Gazette an account of the behavior of alfalfa under overflow, which has some local bearings. We are continually learning, he says, new things about alfalfa, so that it becomes necessary occasionally to revise our ideas. I have been one of those who have been maintaining that alfalfa should not be sown on land that is subject to overflow, because in the Western States it is well known that flooding a field of alfalfa with irrigation water will kill it. But during the past few months a number of well authenticated instances have been brought to light where alfalfa is thriving perfectly this summer, although it was flooded many feet deep last winter.

Col. R. E. Smith of Grayson county, Texas, tells me that part of his alfalfa field was covered 7 feet deep by water, and that a large amount of sediment settled on the land. As soon as the water went down and the ground became dry enough to work he went over the field with a disk harrow and the alfalfa showed no ill effects from the flooding.

C. M. A. Smith of Onondaga county, New York, who lives in a section where alfalfa has been grown for many years, sends me a detailed account of a field of alfalfa in his vicinity which was overflowed in 1902 to the depth of a foot or more; and in 1903 it was overflowed again and ice formed to the thickness of an inch or more. The water raised this ice an average of 2 inches or more and then froze solid. Quoting from Mr. Smith's letter:

"When spring broke the flats were covered with water for a considerable period before this water subsided. While the plants looked weak they still lived and the owner has just harvested the second cutting. The soil of this field is what we would call a limestone soil, with gravel beds on it."

Continuing, Mr. Smith says: "In visiting the place to-day I found a heavy, hardy field of alfalfa, yielding, I should judge, nearly two tons to the acre of cured alfalfa hay of very fine quality."

These facts seem to indicate that there is a difference between the overflowing of an alfalfa field by a stream and flooding it from an irrigation ditch. This may be due to the difference in the season of the year, when the overflow occurs, the flooding from irrigation occurring during the growing period, while the overflow from streams usually takes place during the dormant season.

The temperature of the water may also have something to do with it. In the summer season in the West it is practically always clear weather, and in the daytime may become quite warm. Irrigation water left standing upon the fields has its temperature considerably elevated in a few days, while the water from a flowing stream remains cold. Another possible factor may be found in the atmospheric oxygen dissolved in the water. The flowing water would be well supplied with this, which would enable the alfalfa plant to breathe normally. The standing water from irrigation would soon become exhausted of its dissolved oxygen and would tend to smother the plants.

Since alfalfa yields such large crops on good rich land I hope any of your readers who have had experience with alfalfa on land subject to overflow will give the rest of us the benefit of it.

## THE POULTRY YARD.

### Behold the Perfect Hen.

TO THE EDITOR:—Some years ago Prof. William Henry Brown of Yale University predicted, from mathematical calculations, that a two-minute trotting horse would be produced about the beginning of the twentieth century, and the great Lou Dillon has fulfilled his prophecy.

According to the American standard of perfection, there are many fowls scoring 95% perfect from a form-and-feather point of view. The egg laying ability of pure-bred stock has in past years been to some extent lost sight of, although it is in reality the egg-laying quality of the hen for which most persons who keep poultry are looking.

Nowadays hens that lay 200 eggs a year are few, but the trap nest having come to stay, and hens being bred for eggs by the individual-record system, who knows but that the day is not far distant when a hen that will lay 347 eggs in 365 consecutive days

may not be produced? This is only 95% of perfection from a utility point of view, and why not attain that degree of perfection in laying, as well as in form and feather?

The difference is that a few men—not above a hundred—constitute the American Poultry Association. They imagine perfection in form and feathers, and all the members of that association don't agree—not even any considerable number of them—as to what a perfect fowl should be; neither do those who act as members of the A. P. A.

If the perfect utility hen is ever produced, and I sincerely believe she will be some day, God will have created her, and not men's imaginations, and her perfection will be capable of mathematical demonstration.

W. K. HAYS.

Henleyville, Cal., Oct. 19.

So far as we know, the Creator is not breeding hens which are perfect from an egg producer's point of view. He has placed in the hen the capacity for special development, and in the mind of man the ability to conceive different ideals and, within limits, to attain them. If then the perfect egg-laying hen is produced, it will be the joint work of God and man, and God has finished his part of the job.

## Petaluma Poultry Notes.

The Petaluma poultry district figures largely in our columns, and, consequently, much has been said of it, but there will always be more coming. Mr. Hamilton Wright, who has charge of the publicity end of the California Promotion Committee, recently went scratching around Petaluma, and here are a few of the facts which he has brought to light:

Petaluma is 36 miles from San Francisco. A great poultry trade is done with that city. Two stern-wheel steamers, the Gold and the Napa City, make daily trips, and thirty-eight sailing vessels assist in carrying eggs. The Gold and Napa City carry an average throughout the year of from 500 to 700 cases of eggs, each case containing from 30 to 36 dozen eggs. Besides this, they are often loaded down to the water line by additional chicken crates. Sometimes the load is so heavy that it reaches from the lower deck to a level with the pilot house of the good-sized packets which carry the daily loads. It costs 10 cents to ship a crate of eggs to San Francisco, the empty crate being returned free.

**A LARGE ESTABLISHMENT.**—Petaluma has the largest chicken ranch in the world. This ranch has on its premises 13,000 laying hens, besides thousands of young chicks in the brooders and brooder houses. The poultry ranches vary in size from those of 300 to 2000 hens, kept within city limits or so close at hand as to form practically a part of the city, to the average big ranch of 3000 to 5000 hens, with fifteen minutes or half an hour's drive from the steamboat landing. It takes an enormous quantity of feed to keep these ranches supplied. Some of the poultry men buy feed in quantities up to 2000 sacks at a single purchase. It is estimated conservatively that each hen yields an annual net income of 75 cents.

Of course, in exceptional seasons the average will equal or exceed \$1. By selling all hens over three years old, young cockerels and broilers, the poultry rancher is able to meet all current expenses and to pay the interest on his plant. It is the hens that lay the golden eggs, and from the eggs in Petaluma come most of the profits. White Leghorns are raised in Petaluma because they lay white eggs, and these eggs sell better than any other varieties; they are uniform in size, and please the housewife better than when the eggs are differently shaded, although perhaps larger.

Poultry raising on a large scale is an interesting industry. There is as much difference between the methods of the man who raises a few dozen or a few hundred chickens and the man who raises them by the thousands as there is between the small dairyman and the great stock rancher. The big poultry rancher buys his feed at wholesale. It takes a ton of wheat and a ton of middlings per month to feed 1000 chickens up to the profitable laying point. The big poultry rancher buys his feed by the carload; he sells the stray feathers, the empty eggshells from the incubators and the guano.

The sales from all these make an appreciable reduction in the running expenses. The eggshells alone are worth \$1.60 a bushel.

There are nine establishments in Petaluma which pack eggs and chill dressed poultry so that it may be shipped a long distance. The hen in Petaluma is too dignified and valuable a creature to devote her time in hatching chicks. All she does is to keep on laying until the end of the third year, when she is sold for marketable purposes. The duties of maternity are all performed by the incubators and brooders, and on some big poultry ranches near Petaluma one will find a half dozen incubators and as many brooders and brooder houses all filled with chicks. There are always a number of cats on each chicken ranch to keep the ranch free from rats and other vermin. One sees very few roosters in Petaluma, it being gen-



erally considered a useless expense to keep many of them the year round. Young frying males bring 30 cents wholesale; hens bring 25 cents and 30 cents at eight and ten weeks. Young fries, if well grown, bring 20 cents. These prices are the very lowest. The winter and early spring eggs have sold at 50 cents a dozen. Good spring fries have brought 75 cents for all that could be produced, and this undressed, for none of the poultry ranchers in the Petaluma district ever dress their own poultry. This is all done by the shippers and commission houses. Thousands of crates of live chickens are sent to San Francisco.

On a large chicken ranch the chickens are moved to a new plot of ground every three months. The "running" ground is divided into four plots, two of the plots being grass runways and two being gravel. After the chickens have been moved from one runway it is ploughed and sown to grass, alfalfa or kale. At the end of three months this has sufficiently grown to allow the fowls plenty of green, while the gravel runway, having lain idle, is now perfectly sanitary.

## RANGE INTERESTS.

### The Situation in the Cattle Business.

Mr. A. E. de Riques, in giving to the readers of The Breeders' Gazette some advice on the cattle business, introduces some statements which are of considerable local interest:

Western conditions are about an average, that is, the cattle are going into the winter in fairly good condition. The range feed, taking the country over, can be called a good average. Perhaps the northern part of Wyoming and southern Montana are in worse shape than any other section on account of the drouth and grasshoppers, but outside of that district there is but little to complain about.

The run of cattle from the West has been very much less than a year ago. This of course includes the Chicago market, and I believe when the figures are given out in December that the run from what are known as the range States will show a decrease of not less than 250,000 cattle. This includes all the markets and does not apply to beef cattle alone at Chicago.

CALIFORNIA A PURCHASER.—There is now springing up in California a demand for grass-fat cattle that are in Wyoming and Colorado. There are men in Denver to-day who want to buy grass beef to go to California. I know of about 5000 steers, threes and fours, that have been sold at a good round figure in Wyoming on the Union Pacific Railroad to go to the Pacific Coast. Other cattle have been sold in Nevada and Oregon, so that the source of supply will be largely cut off from the Eastern markets. During the winter time we have been accustomed to get quite a few hay-fed cattle from that section and it looks now like next winter we shall not have any, and feeder buyers who have been accustomed to come here and buy these cattle for short feed in the spring will not find them on the market.

The State of Colorado is in most excellent condition. Very large crops of hay have been put up and considerable money will be brought to the farmers in this section from their sugar beets and potato crop. I suppose that the potato crop in Colorado will exceed ten thousand earloads. Very few people understand the magnitude of that crop.

FINANCIAL CONDITIONS.—These are times that the small rangeman who lives in a remote section, far away from the railroad, with but few newspapers or communication with the outside world, thinks that he is the only one who is being badly treated. There are a great many of these little men who have been doing business with loan companies far away from their own homes or with outside banks, and some of these men have an idea that such financial institutions simply have to open their pocketbooks and pull out all the money that is necessary to finance all of their customers all the time. I would like to say to some of these little men, many of whom I know very well and for a long time, that just at present the country is going through a rather peculiar performance that has been largely brought about by speculations in Wall street and putting too much wind into capital of big corporations. This has been called "over-speculation" and is perhaps a good name for it. Now perhaps this has nothing especially to do with the cattle interests of Montana or Dakota, but nevertheless in the financial districts where the cattle paper is carried the banks that have been in the habit of taking this paper have been sorely pressed to provide funds for many of their clients and customers who have been dealing in these stocks. These customers perhaps have had their surplus money lost and are now calling on their home banks for funds to run their regular business with and as a rule these people get preference, and the banks thereupon go to work and call in loans that they have made in other sections and it tightens money matters at all points.

There is no reason to believe that any great financial disaster is going to overtake the country, because there is enough legitimate business to keep the people employed and consume the product, but just

now it is desirable for every man who is borrowing outside of his local bank to provide the people with whom he is doing business a very complete and satisfactory statement of his condition and make every effort to get the proper feed and shelter for his stock. I speak more specially of course to the people who live in the Range States. The small borrower should not be annoyed or feel that he is being called upon for anything unreasonable if the people with whom he is doing business request him to make statements and furnish information about his country. They have to have this and it is only right that it should be given them and the plainer it is made the better it is for the small man. I know how a great many of these small cattle men feel and how hard it is to get them to write a letter; and I might say that now that oftentimes credit is withdrawn simply because the borrower fails to give enough information about his condition and does not from time to time answer the letters that are sent to him. It is important that these matters be looked after and I am sure that there is nothing that pays so well as prompt replies to correspondence and proper attention paid to maturing paper.

THE OUTLOOK.—It might be a good place here to say to men who have bought Texas steers in the spring and have carried them over one year that it is a very poor plan to try to ship them to market unless double-wintered. There is something about a Texas steer that does not favor handling of these cattle on the market after one year in the North, and it seems that it takes two years to bring them out and make out of them real desirable animals. I believe that next season will see a better range cattle market than we have had this year, and this largely on account of the small number of cattle going on feed, and it appears to me that if the men who have single-wintered steers will take good care of them and get them on good grass early next year these cattle will be profitable. This refers to the cattle that are north and west of the Sand Hills.

The cattle business is not going to pieces by any means, and there is no reason whatever for people having the blues about it. The real trouble perhaps, so far as the western cattle are concerned, is that they have been unprofitable to the killers who have bought them, because they have been soft and sloppy and did not kill out well, and nobody has been more disappointed about the range cattle business this year than the packers themselves. I have talked to several of these men in Chicago and they have all said that they would give good strong prices for all the good cattle that came in. I went through one of the big coolers there in company with one of the buyers and he showed me hundreds of carcasses of range cattle that he had bought that showed very little if any flesh and hung up badly. Anybody who has been watching the market closely cannot help but consider the immense number of cows and young calves that have been slipped in. I do not think any figures have been kept in this direction, but the bad winter we had last year in the breeding section, together with this immense movement of the cattle through the market, cannot help but have an effect on the supply that will be coming along in the next year or two. Of course it is almost a certainty that young steers will sell very much lower next spring than for the last five or six years, but on the other hand it looks like we might be cutting into our reserve supplies a little heavier than we should. It is hard of course to tell how such a movement affects the actual number of cattle in the country, but I believe firmly that any man who has some roughness and feed can make money by investing in the good quality cows and heifers that are now being sold on the river markets, and I would recommend anyone who is prepared to take care of these cattle to buy them because they are on a basis that anybody can afford to invest in them.

## METEOROLOGICAL.

### A Brief Discussion of the Season's Probabilities.

TO THE EDITOR:—With now an apparently dry October month, and with this persistent low, dense fog condition along the coast that has hardly found its equal since October preceding the wet season of 1885-86, the probabilities of a wet season are increasing. Only two wet seasons out of fifty-five began with heavy October rains. Most of the below-average rainy seasons begin with September or October rains. One dry season, however (1863-64), had no rain in October; so, after all, this is generalizing and does not account for the exceptions.

Our discussion applies to the belt from San Francisco southward. Every dry-season-October is more or less cold; the Octobers before wet seasons are warmer. This is accounted for by the persistent high barometer area that crosses from the central part of the State to northern Utah, which forms the characteristic prevalent dry-season type and that thus early shows its influence. In average and wetter seasons this continental high, as it has been called, is least in evidence, and, therefore, allows the balmy lower barometer area to the northward its

influence, which later on, in its "lows," carries the rain-bearing area.

In another fortnight weather conditions will be further advanced to again better discuss probabilities, from our standpoint. We look for no appreciable rains for some time yet, as heavy rains have not yet begun northward, and, rather, the summer-type weather is in evidence. More anon. L. E. BLOCHMAN.

Santa Maria, Oct. 24.

## THE STOCK YARD.

### A Successful Fair.

Written for the PACIFIC RURAL PRESS by MR. E. W. HOWARD, President of the California Live Stock Breeders' Association.

The Central California Fair, held at Hanford October 5th to 10th, has come to stay. It is an example of what can be done in the way of fairs in an appreciative and progressive community. It was primarily a live stock exhibition, the racing taking a secondary place. Bookmakers and touts were conspicuous by their absence. The greater part of the attendance was composed of farmers and stockmen, and from the interest they took in the stock judging and Professor True's remarks, there is no doubt but that the fair will be far-reaching in its effects and productive of good results. The directors are to be commended for their enterprise and good judgment in selecting a live stock judge of Mr. True's ability to award the premiums. His exposition of the correct type, and of the underlying reasons governing the types of the various herds of live stock, were able and explicit.

HORSES.—Although many of the exhibits were far from approaching the correct or improved type, there were several commendable exhibits of horses and cattle. F. I. Hodgkins of Lathrop exhibited his Percheron stallions, Vanquisher and Michel, which, it will be remembered, received first and second premiums at the State Fair, and they were again placed in the same order. Mr. Hodgkins' French coach stallion, Regent, was also placed first in his class, repeating his performance at the State Fair. Another very commendable exhibit of draft horses were the Clydesdales, belonging to C. Kimble of Hanford, one of the directors of the fair.

CATTLE.—The cattle exhibits were rather slim, beef breeds being represented by Shorthorns only. The Chowchilla herd from Merced county carried off the honors, though they were not permitted to compete for the money with the cattle from the fair district, comprising Kings, Kern, Tulare and Fresno counties, but no doubt they were well satisfied with the ribbons, for they demonstrated that the breeders of the State are producing far better cattle than the average Eastern importation, as a large part of the entries of cattle were bought in the East and imported to this State. The enterprise of these gentlemen may be commendable, which, however, cannot be said of their importations. It would seem that for the good of the cattle industry we should aim to import to California a high average of the various breeds only, cattle that will help to improve what we already have, and especially so if California is to take a position in the live stock industry which she deserves. If the breeders will do this, it will soon be said of our cattle, as it is of our hogs, sheep and standard bred horses, that we have the best in the world. Climate and other naturally favorable conditions cannot do it all; the breeders, and all who aim to become breeders, must co-operate.

Of the dairy breeds the Jersey herd of A. B. Evans of Fresno carried off the lion's share of the ribbons, and also the money, as they were from one of the four counties comprising the fair district.

Hogs, sheep and goats were plentiful, C. P. Bailey & Sons of San Jose exhibiting their Angora goats and Persian sheep.

EDUCATION REQUIRED.—A noticeable feature of the fair was the apparent lack of general live stock knowledge and requirements of market types exhibited by the farmers in attendance. This is to be expected, and is a common feature of most live stock exhibitions. I take it that in this fact lies the need for, and, consequently, the existence of, fairs and exhibitions.

One honest farmer was heard to say, when the judge awarded the blue ribbon in the class of farm horses to a good marketable sound chunk: "Give me the one he placed last," pointing to a long-barreled, long-legged horse of no recognized type, "he'll do to drive to town, plow and bring in the cows." Probably he would serve all these purposes, but none of them well, and if put on the market would bring about \$25 for service in a peanut peddler's wagon; whereat, the one awarded the first premium would bring \$150 or better, being a good type of an expresser. That one was the type of a profitable horse to raise, and would bring gold pieces to the honest farmer's pocket, whereas the other would not, it was easy to see had not been considered by this worthy producer of wealth. Here lies the value of an expert judge, and, to my mind, no fair can hope to fulfill its legitimate object unless the management gives the educational possibilities their due consideration. The better the judge, the better the fair.



## Agricultural Review.

### Alameda.

**A PROLIFIC HEN.**—Livermore Herald: Wm. Posthill, who lives on the Miner place, has a hen which has made a record in the laying line. According to Mr. Posthill, this hen laid sixty-three eggs in forty-four days. This record began on June 4th and ended on July 29th. On twenty-nine days of this period the hen laid one egg each day, on eleven days she laid two eggs and on four days she accomplished the remarkable feat of laying three eggs a day. On twelve days, generally the day before or after she had laid three eggs, she rested from her labors. This wonderful prolific hen is known to members of the Posthill household as Peggy Arab, and being a pet made her home in the dooryard apart from the other fowls. She is a Plymouth Rock and was hatched on February 4th of the present year. Peggy had the distinction of being the only chick hatched from a setting of fifteen eggs, and twenty-six days were required for the hatching.

### Butte.

**BALED HAY EXHIBIT.**—Chico Record: Walter Bullard shipped four bales of alfalfa hay to be displayed at the St. Louis Exposition and in the Sacramento Development Association's display in Sacramento. The hay was of the fourth crop and of exceptionally fine quality.

### Humboldt.

**CREAMERY PRICES.**—Arcata Union: The creameries of this section paid the following prices for butter fat on October 15th: Minor, 29½c; Arcata, and Schulz, Niggle & Co., 30c; Premium, 31c. Creameries in Eel River valley paid as follows: Abramson, 30½c; Capitol, 30½c; Cold Springs, 30c; Cream Valley, 30½c; Crown, 31½c; Excelsior, 31½c; Ferndale, 32c; Grizzly Bluff, 30½c; Pioneer, 32½c; Riverside, 30½c; Starr, 31½c.

### Kings.

**ALREADY SOWING WHEAT.**—Hanford Sentinel, October 22: Frank Howe of the Guernsey section is one of the men who had a pretty good wheat crop this year in the lake region, and he now has men at work seeding quite a large piece of land southeast of Dallas school house.

**GOOD CROP OF CORN.**—J. N. Fleharty, of the Laguna de Tache, exhibits some specimens of good Dent corn which he picked from his 12-acre field. The corn is well filled, large, and sound as can be. Mr. Fleharty says that while the yield will not be so heavy as it was last season, on account of a scarcity of water at the time it was needed, the yield will be quite satisfactory, and the price will be higher than formerly.

### Los Angeles.

**PORTER RANCH SOLD.**—A Los Angeles dispatch states that the Geo. K. Porter ranch, comprising 16,450 acres in the San Fernando valley, has been purchased by a syndicate of Los Angeles capitalists for \$575,750. This is at the rate of \$35 per acre. The persons composing the syndicate are E. H. Harriman, H. E. Huntington, A. B. Hammond, General H. G. Otis, J. F. Sartori, George C. Hunt, E. T. Earl and George K. Porter. The ranch lies about 16 miles northwest of Los Angeles. It comprises the north half of the San Fernando valley, including the town of San Fernando, and some of the finest fruit and farming lands in the southern portion of the State.

**LIMA BEANS SOUTH OF TEHACHAPI.**—Los Angeles, Oct. 24: Statistics on the Lima bean product of southern California have been compiled and the figures made public. The crop of over 750,000 acres has just been harvested. The yield has been good in almost every county. Ventura heads the list with an estimated crop of 650,000 sacks, an average yield per acre of from 15 to 17 sacks. Los Angeles county produced a crop estimated at 180,000 sacks; Orange county 65,000 sacks; Santa Barbara county 50,000; scattering districts in other counties 20,000. One grower in the Santa Monica district is reported accepting an offer of 3c. flat for 8000 sacks.

### Madera.

**SHEEP WITHOUT A SHEPHERD.**—A Fresno dispatch states that C. S. Newhall, forest superintendent, has returned from a trip into the reserve above Crane valley. He reports that Chief Ranger Shinn is back from a month's trip of inspection, in which he went over on the Mono side. Mr. Newhall says that another band of 6000 trespassing sheep was found by the Rangers and driven out of the reserve. This almost amounts to confiscation, for the sheep are rushed out at a pace that causes many of them to drop along the trails, and if the herders are not on hand to take charge of them when they reach the confines of the reserves they wander

away and become lost. A few weeks ago another band of 10,000 were driven out of the reserve in the same way, and of these fully 4000 were reported dead or lost by the herders.

### Mendocino.

**WOOL MARKET.**—Ukiah Press: Wool market is very dull, bringing only from 9 to 11c. A number of growers will probably hold their clip. A. J. Stuck, of Covelo, was down for wool sale. Mr. Stuck has charge of the flocks of Marks & Thompson and reports an exceptional clip, each sheep averaging 3½ pounds.

**THE HOP MARKET.**—Hops have sold from 19 to 19½c. during the week. Some of the growers believe the market will raise and are holding.

### Napa.

**GRAPE CROP FAIR.**—St. Helena Sentinel: The grape crop in this section has been fully as large as was expected and the yield is a good average one. The price has ranged from \$16.50 to \$18 and in some cases even higher.

### Orange.

**FINE WALNUTS.**—Anaheim Gazette: Mr. Neff reports the walnuts now being delivered at the local packing house to be the best in quality ever grown here, going more pounds per sack than in former years. The crop is short in quantity, it being doubtful in cases whether estimates made earlier in the season will be fulfilled.

**LIME AND WALNUTS.**—Mr. Kossert has probably the heaviest yield of walnuts in the Anaheim section, and he attributes it to the fact that he applied a heavy coating of lime to his orchard last year. His yield will be a ton per acre, which is exceedingly favorable when it is known that in most orchards the yield is below 50% of usual outputs. Other growers who applied lime to portions of their orchards say they see no difference in the yield between sections treated with lime and other parts of their orchard.

**FIRST CAR OF CELERY.**—The first car of celery to be shipped East from Orange county fields was forwarded Saturday, the 24th., to Kansas City. The crop from the above district will be in the neighborhood of 1500 cars.

**THE BEAN CROP.**—Revised estimates of the bean crop of Orange county places it at from 65,000 to 70,000 sacks, nearly 10,000 sacks less than the early estimates. This decrease was caused by the hot weather in September.

### Riverside.

**FIRST YIELD OF WALNUTS.**—Enterprise: H. Daniels reports one and one-half tons of walnuts as the season's crop on a seven-year-old seven-acre ranch of the Bixby property at Temescal. This is the first crop, and, so far as known, is the only walnut ranch in Riverside county.

### San Benito.

**BIG FOREST FIRE.**—Hollister Bee, Oct. 23: Forest fires have been raging in the Gabilan mountains since Friday. The fire was started from blasting at the lime kiln on the Grant Harlan place and soon spread to adjoining ranches. So far as learned, the heaviest losers are Grant Harlan, Dr. G. C. Porter, Con Sullivan and William Gibson; but the fire is still burning and will do an immense amount of damage. More than 10,000 acres have already been burned over.

**GOOD WALNUT YIELD.**—Hollister Free Lance: From ten acres of land planted to walnuts in the San Juan valley, E. E. Bolton has harvested five tons of nuts, which will sell for 12c per pound. They are of the Preparatien variety and a large and handsome nut.

### San Bernardino.

**EGYPTIAN CORN.**—Chino Champion: The biggest crop of Egyptian corn ever grown in this valley is now being harvested. A large acreage was planted and it is in practically every field giving a heavy yield of big, well filled heads. It is selling for \$25 per ton threshed, or \$20 in the ear. This is a profit-making crop for the farmer, especially on the cheaper dry lands, and it is also one of the best feeds for poultry and stock.

### San Diego.

**HARVESTING CORN CROP.**—Imperial Press: Harvesting Kafir and Egyptian corn with many Imperial farmers is presenting a new problem. E. L. Ranney, who has a number of acres near Mesquite lake, tried cutting his crop with a corn sickle, bending the heads over a wagon. This was not satisfactory, and he finally used pruning shears. Hand cutting, however, is too slow, and several farmers are trying other plans with the aid of machinery. The method is to be tried of using one of the large combined harvesters, which will not only cut the corn, but will thresh it at the same time.

### San Joaquin.

**FRUIT AND VEGETABLE EXHIBIT.**—Lodi Sentinel: H. F. Ellis is collecting San Joaquin county's display for the St. Louis Exposition. In the collection is a cluster of Tokay grapes weighing 12½ pounds from the J. B. Cory vineyard, in the Langford colony. Seven quinces from the Van Buskirk place weigh over 9 pounds, and there is a pumpkin off the Gorman ranch, near Terminous, that tips the beam at over 200 pounds. The pumpkin will be treated to a novel scheme for preservation. The stem will be cut quite long, sealed up with wax, then varnished. In that state it will keep for a year or more. There is a sweet potato, from the islands, that measures over 44 inches. Ears of corn that measure 16 inches and over are in the display. Mr. Ellis has a pear that will not fit any jar, so big is it. Its variety is not known.

### Santa Barbara.

**SANTA MARIA NOTES.**—TO THE EDITOR: We have inaugurated a chamber of commerce here this year, and are beginning to advertise our productive valley. We have had a banner grain year, 500,000 grain sacks having been used up, barley and oats predominating, with a little wheat. Beans have not turned out as much as anticipated, but prices are good and make up for lack of quantity. The beet industry is a success where irrigation is followed and the factory is gradually irrigating most all of its beet lands; irrigating before planting is preferred.—L. E. BLOCHMAN.

### Santa Clara.

**THE PRUNE CROP.**—San Jose Mercury: The season of prune drying in this valley is over. The crop did not exceed half of last year's on the trees, but the fruit averaged exceptionally large, and in cured weight it is more than half of the total cured product of 1902. The majority of the growers are holding their prunes for not less than 3½c. Some prunes have been reported sold at 2½@2¾c., but the packers have not found enough for their orders, and have been compelled to look elsewhere.

**SUIT OVER PRUNES.**—A decision was rendered last week in the Superior Court of Santa Clara county, in the suit of the California Cured Fruit Association against the J. K. Armsby Company in favor of the plaintiff for \$4,835.41, being the balance due on the purchase price of certain prunes sold and delivered to defendant, \$138 due for certain bags sold and delivered and for \$987.75 due for storage, together with costs.

**DELIVERIES OF WINE GRAPES.**—Growers around Los Gatos are busy now taking care of their grapes, and the weather is all that can be desired. Quite a quantity of the fruit is being shipped to San Francisco in preference to delivering to the wineries, the returns averaging from \$18 to \$25 per ton. The wineries in Los Gatos section are not doing very much. Some of the growers are taking care of the grapes on a co-operative plan.

### Santa Cruz.

**FRUIT NOTES.**—Watsonville Pajaronian: Packers are able to see the good effects of summer spraying. There is a far less showing of wormy fruit this season than last. The lead arsenates will be used extensively here next season in summer spraying. Owing to the lack of late spring rains, there is going to be a large showing of five-tier apple stock in Pajaro valley this season. The quality of the fruit, however, is excellent. Local packing houses are stacked full of apples, notwithstanding the fact that large forces of employees are engaged in assorting, packing and shipping them as fast as possible. The crop is going to prove much heavier than that of last year.

**FIRST APPLES FROM WATSONVILLE.**—Watsonville wins the credit for sending the first California exhibits to St. Louis for the Louisiana Purchase Exposition. The Watsonville contribution consisted of a carload of apples, more than 600 boxes in all. The apples will be placed in cold storage until the time arrives to put them in the horticulture building next spring. At first only a part of the carload, possibly 100 boxes, will be put in place in the big show. These will last some time. The remainder of the carload will be exhibited in installments. By this plan a continuous good showing for California apples will be possible and the interim before the crop of California for the season of 1904 comes in will not be unsupplied with fruits.

### Sonoma.

**VINEYARD PROPRIETORS WINE COMPANY.**—Santa Rosa Press-Democrat: Articles of incorporation of the Vineyard Proprietors Wine Company have been drawn up. This is the concern formed by the grape growers of the county with a view to establishing co-operative wineries in different parts of the county. The

capital stock of the company is \$100,000, and of this sum \$11,400 has been subscribed. The board of seven directors is composed of J. E. Gater, F. Burr, Edward Walden, W. O. Black, C. L. Patterson, H. E. Walker Jr. and H. E. Black. The directors reside in the Geyersville and Alexander Valley section. It is stated that already 1000 tons of grapes have been pledged to the company.

**WEATHER AND GRAPES.**—Index-Tribune: The weather the past three weeks has been peculiarly favorable for grape growers and wine makers. Never before since the settlement of the valley, covering a period of over fifty years, has the weather been so dry and warm in October. As a result, the grapes are all that could be desired by wine makers, while the owners of vineyards will reap a rich harvest from the second crop of grapes. Owners of Tokay and other table grape vineyards are also profiting by the favorable weather and large shipments being made daily.

**HEAVIEST CARLOAD EVER SHIPPED.**—Sebastopol Times: The local cannery has established the record of shipping the largest carload of canned fruit that has ever been loaded in Sonoma county. On Saturday last Manager Asa Mills consigned to the East a car containing 1430 cases of fruit weighing 86,000 pounds.

### Stanislaus.

**WILL POISON SQUIRRELS.**—Modesto News: H. S. Crowe, superintendent of the Modesto irrigation district, has given notice that poison will be put out for the purpose of destroying squirrels along the right of way of the district on October 26. The intention was to put out the poison several weeks ago, but the farmers asked that the time be made later because of the large number of cattle grazing on the stubble and other pasture along the ditches. The pasturage of this character is now about eaten out and a longer delay is not deemed advisable. If the time of putting out poison is delayed until the rains come, then the green vegetation will attract the squirrels and the poison will not be eaten.

### Sutter.

**MONEY IN BEANS.**—Yuba City Farmer: J. A. Paine of Meridian recently broke up thirty acres of raw tule land and raised \$2455 worth of beans on the ground this year. It was planted after the water had receded. Mr. Paine sold the beans for 4 cents per pound and the buyer paid the weighing and warehouse charges.

### Tulare.

**FIRST SHIPMENT OF LEMONS.**—Visalia Times: The Lemon Cove Citrus Co. is proud of the fact that it shipped the first carload of lemons out of Tulare county this season. It consisted of a carload comprising 312 boxes containing 300 lemons in each box. The orchard of the Lemon Cove Citrus Co. comprises sixty-five acres.

**BLACKBERRIES IN OCTOBER.**—Visalia Delta: Jesse Teague, who lives north and east of Farmersville, was exhibiting a large bunch of blackberries, fully developed and some of them ripe with a deep rich color, and were as juicy as those plucked in the spring. The brier upon which they grew is known as the "Evergreen," and is very prolific. Besides containing ripe berries the branch supported several large, white blossoms.



**Warranted to give satisfaction.**

**GOMBAULT'S CAUSTIC BALSAM**

A safe, speedy and positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.



## THE HOME CIRCLE

### King Baby.

King Baby on his throne  
Sits reigning O, sits reigning O!  
King Baby on his throne  
Sits reigning all alone.

His throne is Mother's knee,  
So tender O, so tender O!  
His throne is Mother's knee,  
Where none may sit but he.

His crown it is of gold,  
So curly O, so curly O!  
His crown it is of gold,  
In shining tendrils rolled.

His kingdom is my heart,  
So loyal O, so loyal O!  
His kingdom is my heart,  
His own in every part.

Divine are all his laws,  
So simple O, so simple O!  
Divine are all his laws,  
With Love for end and cause.

King Baby on his throne  
Sits reigning O, sits reigning O!  
King Baby on his throne  
Sits reigning all alone.

—Laurence Alma-Tadema.

### When Mother Cans.

I traveled to the village, Nell, and saw  
your mother, dear;  
Her arms were stained with jam and juice,  
her sleeves rolled up to here.  
The cookstove roared like it was mad, the  
room was full of heat,  
And Jimmie's face was smeared with jelly  
and apple butter sweet.  
A dozen pans were on the stove, their con-  
tents bubbling o'er,  
And there were apples on the beds and  
peaches on the floor;  
And when I walked into the house I  
slipped upon a pear,  
And sitting down, I smashed a big tomato  
in the chair.  
She took an inventory, Nell: Two hun-  
dred jars of jam.  
One hundred cans of Bartlett pears, and  
catsup (that's for Sam);  
Twelve dozen jars of marmalade of sev-  
eral different kinds,  
And twenty tubs of peach preserves and  
watermelon rinds.  
And grapes and quinces, berries, plums  
and apples—tons or more;  
The pantry shelves are loaded down, the  
cellar running o'er,  
But go and get your cook book, dear, for  
thus she spake: "O' course,  
I want to get Nell's new receipt for makin'  
chili sorce!"

—Indianapolis Sun.

### Night of the Straw Ride.

"We're going to meet at Della  
Ridgeley's," said Harlow Seaman, "at  
7:30 o'clock, and start from there—  
what's the matter?" he broke off, for  
Dot's face was lugubrious.

"I can't go, Harlow," she said.  
"Can't go!" Harlow echoed. "Can't  
go to the straw ride! Who says you  
can't?"

"Cousin Tirzah," said Dot, speaking  
low, and Harlow saw that Mrs. Eldred,  
Dot's cousin Tirzah, was within hear-  
ing, and he backed down the steps,  
his face showing his sympathy.

"Who was it?" cousin Tirzah in-  
quired.

"Harlow Seaman," said Dot, her  
voice trembling.

"About that straw ride? Well,"  
said cousin Tirzah, "I wouldn't have  
you going off like that, with a great,  
noisy raft of youngsters—"

"It's just the boys and girls in our  
set," said Dot.

"Going off goodness knows where,"  
cousin Tirzah pursued, "and getting  
home goodness knows when!"

"It's only five miles over to Fanny  
Goodsell's, and they're coming home  
real early," said Dot.

"That will do," said cousin Tirzah.  
"I have my reasons, Dorothea. I don't  
believe in letting girls of your age go  
traipsing off five or six nights in the  
week to all kinds of doings. It isn't  
good for them."

"Yes'm," said Dot, and she tried to  
think about that. Cousin Tirzah was  
good to her. She was a very distant  
cousin, but when Dot's father had  
died and left her alone, being a widow,

and very comfortably off, cousin Tirzah  
had taken Dot, and had given her a  
home.

But, oh, dear! If only cousin Tirzah  
did not have such strange ideas about  
girls. Dot did so dearly love a good  
time now and then. All the other girls  
could go, and have fun enough to talk  
about for a week afterward.

Dot tried to eat her supper cheer-  
fully, but an hour after supper she  
found that her mind was still just where  
it had been.

"I've got a kind of a headache," she  
said, forlornly. "I guess I'll go to bed,  
cousin Tirzah."

"Already? Very well. Take my  
camphor bottle," said cousin Tirzah.

Up in her room, Dot leaned out at  
the window. The moon was almost full  
and the world bright beneath it. What  
a night for a straw ride! Hark—she  
heard some of them going past, on  
their way to Della Ridgeley's, talking  
and laughing and "carrying on." A  
big, hot tear splashed down on the sill.

Suddenly she jumped to her feet.  
She looked at herself in the dim glass.  
Such an amazing idea had come into  
her head that she could scarcely be-  
lieve it was she who had thought of it.  
She began to breathe fast. If she only  
dared to do it. It was not much after  
7:30; perhaps they had not started yet;  
perhaps if she hurried she might catch  
them. She pinned her hat on. She  
tied a fresh ribbon around her neck,  
with trembling fingers, and she found  
her heart beating high as she stole  
down the stairs.

The back doors were fastened for  
the night. Dot softly unfastened and  
opened a window and climbed out.

"I can come back this way," she  
thought. "Cousin Tirzah won't notice  
that it's open."

She hurried through the garden and  
climbed the back fence; the shortest  
cut to Della Ridgeley's was across lots.  
And, in spite of all her dreadful, gnaw-  
ing qualms, she pulsed with joy. She  
was free; she was going on the straw  
ride, and she was recklessly happy.

She ran through a stubby rye field,  
and through a wide pasture. It was  
Mr. Emery's pasture; in the middle of  
it, casting its black shadow on the  
moon-lit ground, was a large barn, old  
and unused, except for storing hay.  
Dot, scudding past this barn with no  
thought of timidity, caught a sound,  
and the sound brought her to a stand-  
still. It was certainly a man's voice.

Dot stood and quivered with fright.  
The man was in the old barn. He was  
not alone—there was somebody to  
whom he was speaking. Who were  
they? Tramps? The idea was terri-  
fying. Dot became possessed of a  
great fear of passing that barn. What  
if they saw her? They might. She  
did the only thing she dared do—she  
stepped into the shadow of the barn,  
and flattened herself against the build-  
ing and stood there trembling.

For a moment, though, now, through  
the wide cracks, she could hear plainly  
the voices within, her fright confused  
her understanding. Then she pricked  
her ears. Whose voice was that? She  
knew quite well she had heard it be-  
fore.

"Wisht there wa'n't such a moon,"  
the man was saying; "it's too light."  
"That won't cut no ice," was the re-  
joinder.

"Well, I guess 't won't at one o'clock  
or so. Folks here go to bed with the  
chickens, anyhow."

Yes, Dot knew the voice. It was  
Durfee Jackson's. Durfee Jackson!  
The thought of him made Dot shiver.  
For Durfee Jackson was a ne'er-do-  
well, and worse. Once he had been  
cousin Tirzah's hired man, until his un-  
steadiness had caused his discharge.  
He had always been in bad company,  
had been arrested in Brighton, and  
served two years in jail for breaking  
into the Brighton postoffice.

And this was Durfee Jackson again!  
Dot heard a match snap; they were  
lighting their pipes and talking, with  
frequent rough laughter, of matters  
whose import Dot did not comprehend.

And then, suddenly: "'T won't be  
no kind of a risk about it," said Durfee  
Jackson. "I know every inch o' the  
place; I worked there once."

"Which house did you say 't was?"

"Big, yaller one with cupola on top,  
and porch all 'round. I know it like a  
book—pshaw! know where she keeps  
her money and all about it." Durfee  
Jackson laughed. "Keeps it locked  
up in a secretary upstairs."

"Easy busted," said the other.  
"I should say so, ruther," said Dur-  
fee Jackson, with a swaggering voice  
that Dot knew. "There's silver and  
stuff, too; the old lady's well off.  
She's got enough spoons to—"

"Any man there?"  
"Nop. Feller that works for her  
goes home nights; I've found that out.  
There's just her and a woman that does  
the work, and a little gal."

The "little gal" leaned against the  
barn's side. She felt as if her heart  
had quite stopped beating. She had  
heard enough. A child, even, might  
have understood it. Her thoughts  
were like lightning flashes. Durfee  
Jackson, who had robbed a postoffice—  
he, and another man, that night, at  
one o'clock—the yellow house with the  
cupola, cousin Tirzah's house—the  
money in the secretary upstairs. And  
nobody there but cousin Tirzah and  
Janet and herself.

A great wave of something stronger  
than fear swept Dot—indignation. Dur-  
fee Jackson, to be meaning to break  
into cousin Tirzah's house and steal her  
money! It was too awful to believe.

She thought swiftly. She knew ex-  
actly what she should do. She had lost  
her terror. Even if they saw her, even  
if they chased her—she drew her skirts  
closely about her and gave a long bound  
and ran across the field like a deer.

When she was safe, out of sight of  
the barn, she stopped to breathe. Then  
she ran on. Hiram Sheldon was the  
sheriff, and he lived half a mile straight  
up the road.

He was sitting smoking by his sitting-  
room lamp, and reading the county  
newspaper, when Dot burst in without  
knocking and told her story in one  
breath. He laid down his paper and  
took off his glasses and looked at her.

"Just say that again," he said, and  
by the time Dot had repeated it he was  
ready with his answer.

"Go home," he said, in conclusion,  
"and go to sleep if you can, and don't  
say a word to Mrs. Eldred about the  
business; it would just get her roused  
up. You can trust me, Dot."

When Dot went home from school at  
noon the next day she found cousin Tir-  
zah in a rooking chair on the porch.  
And her face showed most plainly that  
she was seriously agitated.

Dot sat down on the top step and  
folded her hands, and waited.

"Dot," said cousin Tirzah, "did you  
hear any rumput here last night?"

"Yes'm, I did. I—I was awake; I  
didn't sleep much last night," said Dot,  
faintly.

"H'm! Do you know how many  
people have been here this morning?"

"No," said Dot.

"Well," said cousin Tirzah, "all the  
neighbors have been here, and the min-  
ister and Dr. Parks. The house has  
been pretty nearly full."

"Has it?" Dot murmured.

"I shouldn't have known what to  
make of it," said cousin Tirzah, "but  
Hiram Sheldon came first of all, and he  
had a story to tell me, Dot."

"Did he," was all Dot could say.

"Did he! He told me," said cousin  
Tirzah, "that Durfee Jackson and an-  
other man tried to break into this house  
last night, and that he, with some oth-  
ers, were there watching for them, and  
caught them, and that they are in the  
lockup now. And he said if it had not  
been for you, Dot, he would have known  
nothing about it."

"No; he wouldn't have," said Dot.

"Well!" said cousin Tirzah, looking  
hard at Dot's averted face; the one  
cheek she could see was as red as a  
peony.

"Well, what were you doing near Mr.  
Emery's hay barn last night? You,  
Dot," said cousin Tirzah, in a gasp of  
total perplexity.

"Cousin Tirzah," said Dot, courage-  
ously meeting her eyes, "I was going  
to the straw ride. I didn't go to bed,  
I—I just thought I'd go on the straw  
ride; and I got out of the back window,  
and I ran. I went 'cross lots, because  
it was late, and going across Mr. Em-

ery's pasture I heard those men in the  
barn, and I got scared and stopped,  
and I was so close I heard what they  
said. That's how it happened—that's  
all."

"All!" said cousin Tirzah. She  
folded her arms and rocked her foot.  
Dot believed that she was waiting to  
find words strong enough to express  
her stern, her crushing displeasure.

"Cousin Tirzah," she said, "I was  
awful wicked; I know I was."

"Well," said cousin Tirzah. "I had  
\$400 in the house last night. I was  
going to take it to the bank yesterday,  
but something hindered me. If Durfee  
Jackson had got that money it wouldn't  
have been any joke, would it? I'm  
afraid, Dot, you couldn't have had that  
new dress this winter that I've prom-  
ised you," said cousin Tirzah. And Dot  
looked at her. Somehow her tone was  
not just exactly what she had braced  
herself to meet.

"Cousin Tirzah," she cried, "I don't  
believe you understand! I was dread-  
fully bad. Why, I was going to run  
away and go on that straw ride, when  
you told me I couldn't."

"Yes," said cousin Tirzah, looking at  
the aster bed; "so you said."

"And I left the window unlocked so I  
could get in when I came home, and if I  
hadn't found it out about Durfee Jack-  
son, and if he had come—"

"He could have got in without any  
trouble," said cousin Tirzah. "It's a  
good thing it turned out the way it  
did, Dot."

"But, cousin Tirzah," said Dot; she  
could hardly believe her ears, nor her  
eyes. Cousin Tirzah was almost smil-  
ing.

"Dot," said cousin Tirzah, "now an-  
swer me. You wanted to go on that  
straw ride terribly bad, didn't you?"

"Awfully bad," said Dot.

"I have never known you to deceive  
me, Dot," said cousin Tirzah, thought-  
fully. "Never before. You must have  
been about crazy to go, or you would  
never have done it. Dot, I rather think  
I ought to have let you go."

"Oh, cousin Tirzah!" said Dot.

"Yes, I do. I shouldn't wonder if I'd  
got too many old foggy notions about  
girls. It's been sort of brought home  
to me. I shouldn't wonder—Dot," said  
cousin Tirzah, abruptly, "how would  
you like to have a party yourself? Next  
week, say?"

"Oh, cousin Tirzah!" said Dot again.

"How would you like a candy pull?  
When I was a girl we thought there  
wasn't anything to beat a candy pull.  
You can invite Harlow Seaman and  
Della Ridgeley and all the rest, just as  
many as you want. What do you say?"

Dot said nothing at all. Her lip  
quivered and her eyes brimmed over  
with simple joy. She went and threw  
her arms about cousin Tirzah's neck  
and hugged her tight and gave her a  
sounding kiss.—Emma A. Oppen.

### Fortunes on Finger Ends.

The costliest thimble in the world is  
undoubtedly one possessed by the  
Queen of Siam. It was presented to  
her by her husband, the king, who had  
it made at a cost of rather more than  
£15,000. The thimble is quite an ex-  
quisite work of art. It is made of pure  
gold, in the fashion or shape of a half-  
opened lotus flower, the floral emblem  
of the royal house of Siam.

It is thickly studded with the most  
beautiful diamonds and other precious  
stones, which are so arranged as to form  
the name of the queen, together with  
the date of her marriage. She regards  
this thimble as one of her most precious  
possessions.

Not long since a Paris jeweler made  
a most elaborate thimble to the order  
of a certain well-known American mil-  
lionaire. It was somewhat larger than  
the ordinary size of thimbles, and the  
agreed price was £5000. The gold set-  
ting was scarcely visible, so completely  
was it set with diamonds, rubies and  
pearls in artistic designs, the rubies  
showing the initials of the intended re-  
cipient.

The thimble was made a birthday  
present to the millionaire's daughter,  
who can now boast the possession of the  
second most valuable thimble in the



world. Her father was so much pleased with the fine workmanship it showed that he ordered another, but much less expensive one, to be made for presentation to the school companion and bosom friend of his fortunate child.

Five or six years ago a jeweler in the West End of London was paid a sum of £3000 for a thimble which the pampered wife of a South American Croesus insisted on having made for her. This was one mass of precious gems, diamonds and rubies, which as thimble ornaments seem to almost monopolize feminine taste.

The eccentric Prince, the late Maharajah Dhuleep Singh, never did things by halves, and one of the most beautiful and costly thimbles ever made was that which was supplied to his order as a present for a great lady in Russia. The price of this ran well in four figures, and the gems set in it were all pearls of great value and no less beauty.

So were those in a highly treasured thimble which, on the occasion of one of his visits to Europe, the late Shah of Persia presented to a lady whose guest he was for a few hours. In the words of the delighted recipient, it looked like a cluster of glittering gems, which in reality it was, save for the gold in which they were set. An expert in precious stones valued this thimble at £1500.

There are thimbles of no intrinsic value, but which, on account of the famous women to whom they have belonged, would command very high prices if submitted to public auction. In the possession of the wealthy Mrs. Vanderbilt there is a thimble which was formerly used by Queen Alexandra. It is an extremely dainty article made of gold and enamel.

But apart from its associations it is not of much greater value than another thimble owned by the same American lady. This is a very serviceable looking article, in solid silver, but very small. Its value lies in the fact that it was the property of the late Queen Victoria in the days when she was only a girl of fourteen. From its appearance our late sovereign knew how to ply her needle in her youthful days.

The first thimble ever made was the one presented in the year 1684 to Anna van Wedy, the second wife of Hillaen van Rensselaer, and the thimble is, therefore, a Dutch invention. In making the presentation, the giver, Van Benschoten, begged the lady "to accept this new covering for the protection of her diligent fingers as a token of his esteem and profound respect."—The Queen.

#### Hints to Housekeepers.

Cranberries are said to be a powerful tonic. Eaten freely after typhoid fever, they clear the system and some dyspeptics carry them in their pocket and eat them raw.

This ointment is very fine for softening the finger nails: One ounce of petrolatum, sixty grains of powdered white castile soap, five drops of oil of bergamot. It should be applied at night.

An eminent authority on nerves recommends for insomnia a cup of hot milk, to be taken after getting into bed. A well-known statesman, among others, is said to have taken this cure with complete success.

Vaseline and coconut butter, mixed in equal proportions, are recommended for stimulating the growth of the eyebrows. The preparation should be rubbed in carefully, but thoroughly, every night. Care is essential in doing anything with the eyebrows, because the hairs are not, as a rule, very numerous, and the unnecessary loss of one is a matter of importance, especially when one is doing her best to cultivate them.

A certain beauty doctor recommends her patients to eat an apple every night. "Fruit is gold in the morning, silver at noon and lead at night," runs the adage, and most people have believed it and avoided fruit of any sort in the later part of the day as if it were the plague. The apple is known to be a most wholesome fruit. Persons who eat a great many raw apples are sel-

dom a prey to dyspepsia. An old Scandinavian legend says the gods resort to apple eating when their mental and physical powers need refreshing. Ordinary mortals might imitate the gods to advantage.

Considerable difference will be found in the wearing qualities of two pairs of shoes of the same quality and make, worn by different persons. Shoes worn continuously in the house and outdoors will never give as much wear as if worn one day and left to rest a day. It saves money to wear cheap house shoes within doors and let the shoes worn outdoors rest and get into shape. Keep an old pair of shoes to wear under rubbers. The perspiration of the feet which India rubber excites ruins good leather. Select strong calfskin and keep it well oiled in winter for outdoor wear. Low shoes are better for house wear because they permit of ventilation. The hand is free from many of the ills of the foot partly because of its continuous exposure to the air.

#### A Pretty Woman.

What is essential to a pretty woman? Here is the answer, as given by a modern beauty expert:

A pretty woman, first of all, must have clearly cut, regular features.

She must have a skin above reproach, untouched by rouge or powder.

She must have eyelashes long and curling upward.

She must have eyebrows finely marked, slightly arched, long and narrow; yet the narrow line should be thickly covered, so as to be well marked, as if penciled.

She must have a straight nose, yet delicate, neither fleshy nor pointed, nor broad at the tip, with the nostrils free and flexible.

She must have a mouth rather too large than too small, with lips full and plump, and rosy red. Even an exquisitely shaped mouth has no charm without expression.

She must have even, regular teeth, of moderate size, pearly white, with full enamel.

She must have a chin neither sharp nor blunt, but gently undulating in its line, round and cushiony, turning a little upward, with a dimple in it.

She must have a small, delicate jaw, not large and angular, which gives a hard, domineering look.

She must have glossy hair that has never known the touch of bleach or dye.

She must have a throat round, full and pillar-like—a marble column to support the head.

She must fully understand what best suits her in the way of hairdressing, and cling closely to that style.

She must have a forehead smooth, even, white, delicate, short and of an open, trustful character. Ariosto says "of terse ivory was the joyous brow."

She must have a long and delicate hand, yet plump, with tapering fingers, the tips of which, when resting on the palm, should turn back a little.

She must have a nail "transparent like a ruby among pink roses"—not long, not round, nor altogether square, but of a fair shape, with a white crescent visible at the base.

She must have small, delicate, compact ears of a shell-like shape.

She must have a foot not too small, but proportioned to the stature it supports—white, well arched, with a curved outline and a smooth surface.

She must have an arm with a round and flowing outline, no sharpness at the elbow, and tapering down gently to a small wrist.

She must have sloping shoulders, not too broad.

She must have a waist twice the size of her throat, not, as fashion has too often made it, nearly the same size.

She must have hips high and wide.

She must have a good figure, plump enough, yet slender enough, though never suggestive of an angle.

She must know how to poise the body—in other words, how to stand correctly.

She must know how to sit without being stiff-waisted.

She must possess the pose and repose

that mark the "daughter of a hundred ears."

She must have a gait which may be likened to that of a Diana following the hounds.

She must know how to climb stairs, also how to come down stairs, gracefully, without any attempt to push holes in the steps.

She must have a flexible, vibrant, caressing, tender, poetic, crystalline voice.

She must know how to put on her clothes, or she loses half her beauty.

A woman may have all these attractions—be either dark or fair, tall or short, slender or full-formed, grave or piquant, majestic or vivacious, serene or brilliant—and unless her personality is charming, unless she has tact, it dawns on you, after you have seen her once or twice, that she is not a pretty woman, but a pretty doll.

#### Domestic Hints.

**MACARONI AND HAM.**—To the macaroni and sauce add one cup of fine minced ham, seasoned with mustard, and beat one raw egg into the white sauce.

**NEW BAKED BEANS.**—Lima and red kidney beans are good baked with pork, as ordinary white beans are prepared. Green or dried beans may be used. The dried ones must, of course, be soaked before baking.

**BAKED SALT CODFISH.**—Codfish is not bad if, instead of being made into balls and fried, it is creamed and baked.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

### Ponder Well This Proposition.

I offer for sale 42 acres fruit land in the Santa Cruz mountains, 5 miles from Los Gatos; 3000 trees, full bearing. This is a delightful summer resort, good roads and plenty of water and will accommodate 35 guests, and one-half of the applicants have to be turned away. A sturdy young couple can easily clear \$6000.00 a year.

Send for a circular giving full description of this valuable and charming place. The price has been reduced to \$12,000.00. Easy terms.

JOHN F. BYXBEE, Palo Alto, Santa Clara Co., Cal.

## STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.



Entrance to Park.

Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasturage for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE

KEARNEY PARK, FRESNO, CALIFORNIA



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, October 28, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	\$1.81 @ 80	79 @ 78 3/4
Thursday	80 1/2 @ 80 1/2	79 1/2 @ 79 1/2
Friday	80 3/4 @ 80 3/4	79 3/4 @ 79 3/4
Saturday	81 @ 81	79 1/2 @ 79 1/2
Monday	81 1/2 @ 81 1/2	79 1/2 @ 80 1/2
Tuesday	81 1/2 @ 80 3/4	80 @ 78 3/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	44 @ 43 1/2	42 3/4 @ 42 1/2
Thursday	44 1/4 @ 43 1/2	43 1/4 @ 42 3/4
Friday	44 @ 43 1/2	42 3/4 @ 43 1/4
Saturday	44 1/4 @ 43 1/2	42 3/4 @ 43 1/4
Monday	43 3/4 @ 43 1/2	42 3/4 @ 43 1/4
Tuesday	44 @ 43 1/2	43 @ 42 3/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1.39 3/4 @ 1.39 1/4	—
Friday	1.40 @ 1.40 1/2	—
Saturday	1.41 @ 1.41 1/2	\$1.41 @ —
Monday	1.41 1/2 @ 1.41 1/2	1.41 1/2 @ 1.40 3/4
Tuesday	1.41 1/2 @ 1.41	1.40 1/4 @ 1.39 1/2
Wednesday	1.42 @ —	1.39 1/2 @ —

### Wheat.

The local market for wheat has not shown much activity the past week, which is to be expected under existing conditions, and that there will be other than a slow movement for weeks to come is not probable. California wheat is not offering in sufficient quantity to permit of extensive trading, and is being held above the parity of values now ruling in importing countries. Exporters are making little effort at present to purchase here, and bid lower figures than holders generally are willing to accept. Some wheat is being landed in this center from ports outside the State, by both shippers and millers, but this is not likely to prove profitable, nor are the imports apt to be of very large proportions. Most of the wheat coming from the outside is from Oregon and Washington. To bring this Northern wheat here to ship to Europe, instead of forwarding it direct from Northern ports, involves extra handling and expense, as well as lengthens the route and the time in transit, thus making this roundabout movement wholly impracticable in other than a small way. Where wheat is required for stiffening, and as stiffening is being carried at less than regular rates, the difference may permit of small quantities being imported without special loss. Millers may utilize a little outside wheat for mixing with the California product, but most of this Northern wheat is worth less to millers than the California grain, as the latter averages a lighter percentage of moisture. Shippers also find California wheat better value at same price than Northern grain, as the former gains more in weight while crossing the ocean.

California Milling..... \$1.45 @ 1.55  
Cal. No. 1 shipping, alongside..... 1.40 @ 1.42 1/2  
Oregon Club..... 1.37 1/2 @ 1.45

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.39 3/4 @ 1.42.  
May, 1904, delivery, \$1.39 3/4 @ 1.41 1/2.  
Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.42 @ —; May, 1904, at \$1.39 3/4 @ —.  
Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	65 1/2 @ 65 1/2 d	— d @ — d
Freight rates	— @ 20s	11 1/2 @ 13 1/2 s
Local market	\$1.26 1/4 @ 1.30	\$1.37 1/2 @ 1.40

### Flour.

The market is showing steadiness as regards values. Spot stocks are not large, nor are they likely to prove particularly excessive for some time to come. The last steamer for Asia took 27,773 barrels, the bulk of the shipment being for Hongkong. Moderate quantities were forwarded during the week to Central and South American countries. Shipments to the Hawaiian Islands are of fair proportions. Demand locally is about up to the average for this time of year.

Superfine, lower grades	\$3.00 @ 3.25
Superfine, good to choice	3.35 @ 3.50
Country grades, extras	4.00 @ 4.25
Choice and extra choice	4.25 @ 4.50
Fancy brands, jobbing	4.50 @ 4.75
Oregon, Bakers' extra	3.50 @ 4.00
Washington, Bakers' extra	3.50 @ 4.15

### Barley.

Inquiry has not been lacking for desirable export grades of the common variety of barley, such commanding fully as good figures as have been lately current. Five clearances of full or part barley cargoes were made for Europe within the week under review. About 125,000 tons of this cereal have been dispatched outward from this port thus far the current season, as against less than 20,000 tons of wheat in same period. In Chevalier there is not much new doing, and no great quantities

of this variety offering. A part cargo of this variety was cleared Monday for England. Feed barley has been in very fair request, the best qualities selling close to the prices realized for the cheaper grades of brewing stock.

Feed, No. 1 to choice	\$1.15 @ 1.16 1/2
Feed, fair to good	1.12 1/2 @ 1.13 1/4
Brewing, No. 1 to choice	1.17 1/2 @ 1.22 1/4
Chevalier, No. 1 to choice	1.37 1/2 @ 1.47 1/2
Chevalier, common to fair	1.12 1/2 @ 1.32 1/2

### Oats.

While there have been no pronounced changes in quotable values, the market has inclined in favor of the selling interest, with demand fairly active for all descriptions. Firmness was most pronounced on desirable seed qualities, the proportion of offerings of this sort being rather light. Stocks now on market are principally Whites and Reds. Choice Blacks make the lightest showing of any quotable description.

White oats, fancy feed	\$1.30 @ 1.32 1/2
White, good to choice	1.25 @ 1.27 1/2
White, poor to fair	1.20 @ 1.22 1/2
Milling	1.25 @ 1.30
Surprise, good to choice	1.22 1/2 @ 1.32 1/2
Black Russian feed	1.15 @ 1.30
Black for seed	1.45 @ 1.60
Red, fair to choice	1.15 @ 1.30

### Corn.

Market for large corn, Yellow and White, has been slow and lacking in firmness. Of above kinds there is considerable Eastern offering, straight and mixed, spot and to arrive. Buyers are operating only against most immediate and pressing needs. Small Yellow is too scarce to be quotable. This variety would sell to good advantage in the local market for chicken feed.

Large White, good to choice	\$1.30 @ 1.35
Large Yellow	1.35 @ 1.37 1/2
Eastern, in bulk	1.25 @ 1.27 1/2

### Rye.

Values are being maintained at about same range as last quoted. Spot stocks and offerings are of quite moderate volume. There is a fair inquiry, mainly from local millers.

Good to choice, new	\$1.25 @ 1.30
---------------------	---------------

### Buckwheat.

No evidence of any noteworthy trading in this cereal. Millers and dealers are lightly stocked. An invoice of 271 sacks arrived Tuesday.

Good to choice	\$1.90 @ 2.25
----------------	---------------

### Beans.

There has been considerable inquiry for Large Whites and Pinks, but buyers were decidedly conservative in their bidding, and prices were hardly so well maintained as during preceding week. Under active buying, however, it would have been necessary to have paid firmer figures. Small White and Pea beans were not offered very freely, neither was the demand for them very brisk. Bayos were in fair supply, and to effect prompt sales fully as low prices as last quoted had to be accepted. Black-eyes tended in favor of the buying interest, with offerings on the increase. Market for Limas continued weak, there being considerable pressure to realize, with stocks at southern coast points of production of tolerably heavy proportions.

Pea, fair to good, 100 lbs.	\$2.75 @ 3.00
Small White, good to choice	3.00 @ 3.25
Large White	2.50 @ 2.75
Pinks	2.50 @ 2.75
Bayos, good to choice	2.25 @ 2.50
Reds	3.00 @ 3.25
Limas, good to choice	2.85 @ 3.00
Black-eye Beans	2.25 @ 2.50
Garbanzos, large	2.00 @ 2.25
Garbanzos, small	1.25 @ 1.50

### Dried Peas.

Demand has been showing some improvement and market in consequence presents a slightly better tone, particularly for Green or Blue, buyers taking hold of these more freely for the time being at full current figures than they do of the Niles variety.

Green Peas, California	1.90 @ —
Niles Peas	2.30 @ —

### Hops.

Not much doing in this center in a wholesale way. Values remain quotably about as last noted, and would likely rule firmer or easier as buying or selling pressure was manifested. Recent sales in Oregon are reported at 20 @ 21c, and in Washington within range of 20 @ 22 1/2c, with market weak for the lower grades. The New York Producers' Price Current, under recent date, reports as follows: "Business on the local market has continued very sluggish. Brewers have been buying such lots as were needed for current use, but have been unusually conservative in their operations, and local dealers are taking stock only from hand to mouth. There are not many hops offering, however, as most of the receipts have gone direct to brewers on previous sales. The tone of values is rather easy; possibly in some cases slight concessions have been made, but, as a rule, former rates are asked and obtained on such

sales as are making. This is true of both State and Pacific Coast hops, growth of 1903. The quality of the western hops is very irregular and there is a widening of values in consequence. In the interior of this State the range of values has been from 29 @ 31c generally, a number of lots of choice going at the latter figure. Growers who have got fancy stock are still asking 32c. Latest advices from England report considerable business in medium to prime qualities at 70 @ 110s, with choice at 120 @ 140s. Quite a good many of the hops show fairly good quality, but are red and small; these are selling at 80 @ 85s. The German market seems to be fluctuating somewhat, but is still much above the rates ruling here."

California, good to choice, 1903 crop	20 @ 23
---------------------------------------	---------

### Wool.

Purchasing continues to be done almost wholly in the interior, the local market being exceedingly quiet. Quotable values remain virtually as last noted, and are of necessity based mainly on prices being paid in the interior. Eastern markets are reported quiet but in main fairly steady.

The dealers seem to be conspiring against the Mendocino county growers, according to the following from the Ukiah Dispatch-Democrat: Last Tuesday was the advertised opening day for wool sales in Ukiah. No business was done that day except in a preliminary way, as wool was coming in from the ranges. Wednesday afternoon buyers from below began making offers of 8 @ 11c, a pound. This was a shock to Mendocino growers, as Mendocino wool brought 13c. at Cleveford only a few days before and Sacramento valley wool sold as high as 11c, two weeks ago at Marysville. Mendocino wool is always counted worth from 2 to 3c. more than Sacramento valley wool. Imagine the surprise of our growers when buyers began offering 8 to 10c. They were simply stunned. There was no selling that day. Thursday morning two or three lots sold for 11c, and the stronger ones among the growers began talking about withdrawing from the market. Several sales were made later in the day at 11c.

Humboldt and Mendocino	13 @ 14
Mountain, free	11 @ 13
San Joaquin Plains	8 @ 11
Nevada	12 @ 16

### Hay and Straw.

Receipts of hay are showing marked decrease, and are largely Alfalfa and common grades of stable hay, with market for these descriptions devoid of firmness, despite the very light arrivals of other kinds. The better grades of horse hay are mostly housed and are being held rather firmly at the recent advance, in consequence of storage charges, but the demand at top figures quoted is slow, the majority of buyers being fairly well stocked and are running on previous purchases. Straw is in light supply and is commanding comparatively high prices.

Wheat, good to choice	\$13.00 @ 16.00
Wheat and Oat	13.00 @ 15.00
Oat, fair to choice	11.00 @ 14.50
Barley	9.50 @ 13.00
Clover	10.50 @ 11.50
Alfalfa	9.50 @ 11.50
Compressed	13.00 @ 16.00
Straw, 3/4 bale	60 @ 65

### Millstuffs.

There was more Bran on market than custom could be secured for at full current figures. Middlings were not in heavy supply, but stocks were ample for immediate requirements. Current values on Rolled Barley were well maintained. Market for Milled Corn inclined in favor of buyers.

Bran, 3/4 ton	\$20.00 @ 22.00
Middlings	24.00 @ 28.00
Shorts, Oregon	21.00 @ 22.50
Barley, Rolled	24.00 @ 25.00
Commeal	30.00 @ 31.00
Cracked Corn	30.50 @ 31.50

### Seeds.

Alfalfa Seed, California grown, is on market in moderate quantity, and is held up to 16c. per pound in a jobbing way, but is moving very slowly at the figures asked. Utah Alfalfa can be laid down at 13 1/2c. in carload lots. Mustard Seed is in light spot stock and there is very little doing in it in this center. Quotations for Hemp have been reduced. Values for other Bird Seed remain quotably as last noted.

	Per ctl.
Alfalfa, Cal., good to choice	\$12.00 @ 15.00
Flax	2.00 @ 2.50
Mustard, Yellow	2.75 @ 3.00
Mustard, Trieste	3.00 @ 3.25

	Per lb.
Canary	5 @ 5 1/2
Rape	12 1/2 @ 24
Hemp	3 @ 3 1/2
Timothy	6 @ 6 1/2

### Honey.

Supplies are of more liberal proportions in the local market than at any previous date since the opening of the current season. The demand is not active, and for the ordinary run of offerings, or for other

than strictly select water white, the market is lacking in firmness. A shipment of 430 cases went forward by sailing vessel the current week for London.

Extracted, White Liquid	5 1/2 @ 6
Extracted, Light Amber	4 1/2 @ 5
Extracted, Amber	4 @ 4 1/2
Extracted, Dark Amber	3 1/2 @ 4 1/4
White Comb, 1-frames	13 @ 14
Amber Comb	9 @ 11

### Beeswax.

There are no heavy quantities offering. Demand is fair and values are reported steady at the range quoted.

Good to choice, light	27 1/2 @ 29
Dark	35 @ 36

### Live Stock and Meats.

Beef was in only moderate receipt and for best grades the market was firm, although in quotable values there were no appreciable changes. Veal was in lighter supply than for some weeks preceding and the market showed mere steadiness. Mutton sold at practically unchanged figures, but for other than choice Wethers the market was net firm. Lamb now on market is mostly too heavy to be eagerly sought after. Tendency on Hog market was to weakness, owing to recent sharp declines at Eastern points.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net	6 1/2 @ 7
Beef, 2nd quality	5 1/2 @ 6
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 @ 7 1/2c; wethers	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs.	5 1/2 @ 5 1/2
Hogs, large, hard, over 250 pounds	5 1/2 @ —
Hogs, small, fat	5 @ —
Veal, small, 3 @ 10	8 @ 9
Lamb, Spring, 3 @ 10	9 @ 10

### Hides, Skins and Tallow.

The Hide market is quiet for Wet Salted at a quotable decline on most kinds of about 1c per pound. Former values on Dry Hides remain current. Tallow market is showing steadiness, with demand fair at prevailing values.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair splits, side brands or murrain, are not always readily placed at the culler's figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	— @ 9 1/2	— @ 8 1/2
Medium Steers, 48 to 56 lbs.	— @ 8 1/2	— @ 7 1/2
Light Steers, under 48 lbs.	7 1/2 @ —	7 @ —
Heavy Cow Hides, over 50 lbs.	8 @ —	7 @ —
Light Cow Hides, under 50 lbs.	7 1/2 @ —	7 @ —
Stags	— @ 5 1/2	— @ 5
Wet Salted Kip	— @ 9	— @ 8
Wet Salted Veal	— @ 10	— @ 9
Wet Salted Calf	— @ 10 1/2	— @ 9 1/2
Dry Hides	— @ 16	— @ 15
Dry Kip and Veal, 11 to 16 lbs.	— @ 13	— @ 12
Dry Calf, under 4 lbs.	— @ 18	— @ 16
Pelts, long wool, 3/4 skin	1.00 @ 1.50	—
Pelts, medium, 3/4 skin	70 @ 80	—
Pelts, short wool, 3/4 skin	40 @ 65	—
Pelts, shearing, 3/4 skin	15 @ 30	—
Horse Hides, salted, large prime, each	2.75	—
Horse Hides, salted, medium	2.50	—
Horse Hides, salted, small	2.00	—
Horse Hides, dry, large	1.75	—
Horse Hides, dry, medium	1.50	—
Horse Hides, dry, small	1.25	—
Tallow, good quality	4 1/2 @ 5	—
Tallow, poorer grades	3 @ 4	—

### Bags and Bagging.

Little doing in this line and no changes to record in quotable values. Most of the dried fruit is boxed, and now that there is a project on foot to build grain elevators and ship grain in bulk, it looks as though grain bags would soon be a thing of the past. San Quentin authorities have contracted for 10,000 hales of jute for coming season at \$11.97 per bale for 2,500 hales by steamer, and \$11.62 per bale for 7500 hales by sailing vessel. Last year \$12.60 per bale was paid.

Bean Bags	\$ 4 1/2 @ 5
Fruit Sacks, cotton	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality	5 1/2 @ 5 1/2
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/4
Grain Bags, San Quentin, in lots of 2000,	5.55 @ —
100	— @ —
Wool Sacks, 4 lb.	32 @ —
Wool Sacks, 3 1/2 lb.	30 @ —

### Poultry.

Market continues to be heavily stocked with Eastern poultry, mainly Young Chickens and Hens, causing California stock of above descriptions to incline against sellers. Choice young Turkeys met with a moderately firm market, particularly fat Gobblers, latter being in lightest supply and in good request. Ducks and Geese sold at practically unchanged figures, but other than choice young were not much sought after. Young Pigeons in prime condition met with a firm market, but Old moved rather slowly at same low range of prices last quoted.

Turkeys, young gobblers, 3 @ 10	20 @ 22
Turkeys, young hens 3 @ 10	20 @ 21
Turkeys, old, 3 @ 10	14 @ 17
Hens, California, 3 @ dozen	4.50 @ 5.50
Roosters, old	4.50 @ 5.00
Roosters, young (full-grown)	4.00 @ 5.00
Fryers	3.50 @ 4.50
Broilers, large	3.00 @ 3.50
Broilers, small to medium	2.50 @ 3.00
Ducks, old, 3 @ dozen	4.50 @ 5.00
Ducks, young, 3 @ dozen	5.00 @ 6.00
Geese, 3 @ pair	1.75 @ 2.00
Goslings, 3 @ pair	2.00 @ 2.25
Pigeons, old, 3 @ dozen	1.00 @ 1.25
Pigeons, young	2.00 @ 2.25



Butter.

There are moderate stocks of fresh butter, but very little now offering is of fancy quality. For latter sort the market is firm, but other grades are dragging, and on the common run of offerings buyers have no trouble in getting concessions in their favor. Cold storage butter, both California and Eastern, is going into consuming channels in heavy quantities.

Creamery, extra, $\frac{1}{2}$ lb.	29	@30
Creamery, firsts.	26	@27 $\frac{1}{2}$
Dairy, select.	25	@26
Dairy, firsts.	22	@24
Mixed Store.	18	@20

Cheese.

Supplies of flats are of large proportions for this time of year, and market is weak, except for a little mild-flavored new of select quality. Small sizes are in rather light stock, with demand for them at prevailing values of limited proportions, buyers confining their purchases to immediate needs. Eastern cheese is in fair local supply and primary markets easy in tone.

California, fancy flat, new.	13	@13 $\frac{1}{2}$
California, good to choice.	11 $\frac{1}{2}$	@12 $\frac{1}{2}$
California, "Young Americas".	13 $\frac{1}{2}$	@14
Eastern.	14	@15 $\frac{1}{2}$

Eggs.

The stiff prices which have been lately exacted for fancy fresh have caused the demand to be very light for this description, most buyers making no attempts to purchase this sort at present, being content with Eastern and cold storage eggs. There are some select Eastern and fancy qualities of California cold storage eggs, which are almost good enough to fool the elect, and are passed by many retailers onto consumers as strictly fresh. For ordinary cold storage offerings the market is not particularly firm.

California, select, large, white and fresh.	50	@--
California, select, irregular color & size.	40	@45
California, good to choice store.	25	@30
Eastern.	24	@28

Vegetables.

Most kinds of vegetables now in season are arriving rather sparingly, and it is the exception where the market for strictly choice to select qualities does not incline in favor of the selling interest. Ordinary qualities had to go in most instances at rather low figures to meet with anything like prompt custom. Common Tomatoes were plentiful and cheap, going to canners at low figures. Onion market was moderately firm for choice to select, but movement was not brisk.

Beans, Lima, $\frac{1}{2}$ lb.	3	@ 4 $\frac{1}{2}$
Beans, String, $\frac{1}{2}$ lb.	2	@ 3 $\frac{1}{2}$
Cabbage, choice garden, $\frac{1}{2}$ 100 lbs.	60	@ --
Cucumbers, $\frac{1}{2}$ large box.	40	@ 65
Egg Plant, $\frac{1}{2}$ box.	40	@ 65
Garlic, $\frac{1}{2}$ lb.	3	@ 4
Onions, Yellow Danver, $\frac{1}{2}$ ctn.	50	@ 75
Okra, Green, $\frac{1}{2}$ small box.	50	@ 75
Peas, Sweet Garden, $\frac{1}{2}$ lb.	3	@ 3 $\frac{1}{2}$
Peppers, Green Chile, $\frac{1}{2}$ box.	35	@ 60
Peppers, Bell, $\frac{1}{2}$ box.	50	@ 75
Summer Squash, $\frac{1}{2}$ large box.	35	@ 50
Tomatoes, Bay, $\frac{1}{2}$ large box.	25	@ 60

Potatoes.

While receipts of potatoes are not especially heavy, there are more coming forward than necessary for the immediate demand, which is mainly on local account. Most of the business in in Sacramento River Burbanks, which are going in the main at quite reasonable figures, and outside offerings have to come into close competition with this stock. Merced Sweets were in fair supply, selling mainly at \$1.25 per cental.

Sacramento River Burbanks.	\$ 50	@ 80
Salinas Burbanks, $\frac{1}{2}$ cental.	1 00	@ 1 35
Petaluma and Tomales Burbanks.	60	@ 40
Oregon Burbanks.	65	@ 1 00
Sweets.	1 00	@ 1 25

Fresh Fruits.

The display of fresh fruits is beginning to narrow down to mid-winter proportions, although the weather could not have well been more favorable for prolonging the season. Apples are in fairly liberal supply, but if the wormy and defective were out of the way, stocks would be of very moderate volume. Although fancy 4-tier Apples were not offering in heavy quantities, sales of fine Spitzenberg were difficult to effect at more than \$1.25 per box in a regular wholesale way. Very good Apples went at 50c per box and for small sizes of favorite varieties 75c per box was an extreme not readily realized from wholesale buyers. Some very common and trashy stock was reported sold down to 15c per box. Winter Nelis Pears are in fair receipt and are selling at generally unchanged rates. They are mostly too hard for immediate use. Considerable quantities are being placed in cold storage on speculative account. Peaches, Plums, Prunes and Figs are practically out and no longer quotable. A few Black Figs sold for 40c@55c for 1-layer, and \$1.00@1.25 for 2-layer box. Pomegranates make a moderate showing, with demand for this fruit rather slow, but prices remain about as last quoted. Persimmons are in fair receipt, but are mainly under ripe, and are more in favor at present for shipment to distant points where fruit is a rarity

than they are for local use. Market was well stocked with Grapes, and on the ordinary run of offerings buyers had the advantage. Some of fancy quality, both Table and Wine, were placed above quotations. Strawberries and Raspberries were in light receipt, choice selling to advantage. Eastern Cranberries were in reduced supply. Coos Bay Cranberries were offered at a wider range, some old stock going at reduced figures.

Apples, fancy, $\frac{1}{2}$ 4-tier box.	\$ 1 25	@ --
Apples, good to choice, $\frac{1}{2}$ 50-box.	65	@ 1 00
Apples, common to fair, $\frac{1}{2}$ 50-box.	25	@ 60
Cranberries, Coos Bay, $\frac{1}{2}$ box.	2 50	@ 3 00
Cranberries, Eastern, $\frac{1}{2}$ bbl.	9 50	@ 10 00
Grapes, $\frac{1}{2}$ crate.	40	@ 75
Grapes, $\frac{1}{2}$ small box.	25	@ 50
Grapes, $\frac{1}{2}$ large open box.	75	@ 1 25
Grapes, Zinfandel, $\frac{1}{2}$ ton.	16 00	@ 20 00
Nutmeg Melons, $\frac{1}{2}$ box.	40	@ 75
Pears, Winter Nelis, $\frac{1}{2}$ box.	65	@ 1 25
Pears, other varieties, $\frac{1}{2}$ box.	40	@ 75
Persimmons, $\frac{1}{2}$ box.	50	@ 1 00
Pomegranates, $\frac{1}{2}$ small box.	50	@ 75
Raspberries, $\frac{1}{2}$ chest.	4 00	@ 7 00
Strawberries, Longworth, $\frac{1}{2}$ chest.	6 00	@ 10 00
Strawberries, Melinda, $\frac{1}{2}$ chest.	2 50	@ 6 00

Dried Fruits.

Market for cured and evaporated fruits has developed no material change since date of last report, but has been in the main rather quiet as regards transfers from first hands. Neither have there been any marked changes in quotable rates, but it was the exception where extreme current figures were readily realized in a wholesale way. Firmness is most pronounced on choice to fancy Pears and Pitted Plums, which are in light stock and not obtainable in great quantity at any figure. Especially are fancy Pears in very limited supply, and are readily placed at comparatively fancy prices. While Pitted Plums are meeting with a firm market, Unpitted are going begging for custom, it having been lately impossible to secure bids on this description. Quotations for Apples have been marked down  $\frac{1}{2}$ c, although the reduction in selling prices have not been so marked as the reduction in quotations. This fruit has been dragging for some weeks, having been held above the views of buyers. At prices now quoted there is prospect of more activity being experienced. In quotable values for Peaches there are no changes to record, but the movement is rather slow and the market easy in tone, especially for the higher grades, which are most abundant. Apricots are mostly in second hands and are being very steadily held. There is considerable movement in Prunes, mainly within range of 2 $\frac{1}{2}$ @2 $\frac{3}{4}$ c for Santa Clara fours, and 2 $\frac{1}{2}$ @2 $\frac{3}{4}$ c for outside fours. Large Prunes are commanding a premium of  $\frac{1}{2}$ @1c over the four-size basis. Heavy shipments of Prunes are being made to Europe, two steamers this week taking an aggregate of 221,200 pounds. One of the steamers took 26,000 pounds of other dried fruit for England. The Prunes were forwarded to continental Europe, mainly to Germany, France and Holland.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4	@ 4 $\frac{1}{2}$
Apples, extra choice to fancy, 50-lb boxes.	5	@ 5 $\frac{1}{2}$
Apricots, Moorpark.	8	@ 11
Apricots, Royal, good to choice, $\frac{1}{2}$ lb.	7	@ 8
Apricots, Royal, fancy.	8 $\frac{1}{2}$	@ 9
Figs, 10-lb box, 1-lb cartons.	60	@ 75
Nectarines, $\frac{1}{2}$ lb.	4	@ 5
Peaches, unpeeled, fair to good.	4 $\frac{1}{2}$	@ 5
Peaches, unpeeled, choice.	5 $\frac{1}{2}$	@ 6
Peaches, unpeeled, fancy.	6 $\frac{1}{2}$	@ 7
Peaches, unpeeled, extra fancy.	7 $\frac{1}{2}$	@ 8
Peaches, peeled.	10	@ 12 $\frac{1}{2}$
Pears, halves, fancy.	9	@ 10
Pears, halves, choice.	6 $\frac{1}{2}$	@ 7 $\frac{1}{2}$
Pears, halves, fair to good.	5 $\frac{1}{2}$	@ 6 $\frac{1}{2}$
Plums, Black, pitted.	5	@ 6
Plums, Red and Yellow.	7	@ 8
Prunes, Silver, good to fancy.	5	@ 7
Prunes, in bags, 4 sizes, 2 $\frac{1}{2}$ @2 $\frac{3}{4}$ c; 40-50s, 4 $\frac{1}{2}$ @5c; 50-60s, 3 $\frac{1}{2}$ @4c; 60-70s, 3 $\frac{1}{2}$ @3 $\frac{1}{2}$ c; 70-80s, 2 $\frac{1}{2}$ @3c; 80-90s, 2 $\frac{1}{2}$ @2 $\frac{1}{2}$ c; 90-100s, 2@2 $\frac{1}{2}$ c; small, --@c.		

COMMON SUN-DRIED.

Apples, sliced.	3 $\frac{1}{2}$	@ 3 $\frac{1}{2}$
Apples, quartered.	3 $\frac{1}{2}$	@ 3 $\frac{1}{2}$
Figs, White, in bulk.	3	@ 5
Figs, Black, in sacks, $\frac{1}{2}$ lb.	3	@ 4 $\frac{1}{2}$

Raisins.

There is a fair movement outward and also on local account, dealers stocking up for the approaching holidays. The Association prices as lately revised hold good until Feb. 1st. Wholesale distributors are quoting Thompson bleached at 9c@10c. for choice to extra fancy f. o. b. at primary points.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:  
Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5 $\frac{1}{2}$ c. per lb.; 3-crown, 5 $\frac{1}{2}$ c. 4-crown, 6 $\frac{1}{2}$ c.; Seedless Muscatel, 4 $\frac{1}{2}$ c.; do floated, 4 $\frac{1}{2}$ c.; unbleached Sultanais, 4 $\frac{1}{2}$ c.; Thompson's Seedless, 5 $\frac{1}{2}$ c.; London Layers—2-crown, \$1.25; 3-crown, \$1.35; 4-crown, clusters, \$2.00; 5-crown Dehesas, \$2.50; 6-crown Imperials, \$3.00; Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5 $\frac{1}{2}$ c.; Valencia cured, 4 $\frac{1}{2}$ c.; Pacific do, 3 $\frac{1}{2}$ c.; Oriental do, 2 $\frac{1}{2}$ c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7 $\frac{1}{2}$ c.; 12-oz. packages, fancy, 6 $\frac{1}{2}$ c.; choice, 6 $\frac{1}{2}$ c.; in bulk, fancy, 7 $\frac{1}{2}$ c.; choice, 7 $\frac{1}{2}$ c.

Citrus Fruits.

The new crop Navels on market are mostly under ripe and these are offering at \$3 per box. Late Valentinas are being more firmly held, with supplies lighter, but demand for them is not very brisk. Lemon market is fairly steady, although stocks are ahead of requirements, and

other than choice to select are receiving very little attention. Limes are in fair supply and are selling at unchanged figures.

Oranges, Valentinas, $\frac{1}{2}$ box.	\$1 25	@ 3 50
Lemons, California, select, $\frac{1}{2}$ box.	2 25	@ 2 50
Lemons, California, good to choice.	1 50	@ 2 00
Lemons, California, fair to good.	1 00	@ 1 50
Grape Fruit, $\frac{1}{2}$ box.	1 50	@ 2 50
Limes, Mexican, $\frac{1}{2}$ box.	4 00	@ 4 50

Nuts.

Almond market is showing decided steadiness, especially for desirable qualities, present offerings being rather light and mostly in second hands. Walnuts are arriving quite freely and are moving rapidly into consuming channels; the market presents a very firm tone. Peanuts are in only moderate stock and in fair request at quotably unchanged values.

California Almonds, shelled.	15	@ 18
California Almonds, paper shell.	10	@ 12
California Almonds, soft shell.	7	@ 8
California Almonds, hard shell.	5	@ 6
California Walnuts, soft shell.	13	@ 14
California Walnuts, standard.	11 $\frac{1}{2}$	@ 12 $\frac{1}{2}$
Chestnuts, California-Italian.	10	@ 15
Peanuts, fair to prime.	4 $\frac{1}{2}$	@ 5 $\frac{1}{2}$
Peanuts, Eastern, hand-picked.	5 $\frac{1}{2}$	@ 6 $\frac{1}{2}$

Wine.

The market remains in much the same condition as at date of last report, being quiet throughout. Dry wines of 1902 vintage are quotable nominally at 15@18c per gallon, with inquiry and offerings both light. Dry wine grapes in this center are selling mainly within range of \$16@21 per ton, but most of the grapes now arriving are more or less off in quality, soft and leaking. Strictly choice Zinfandel would be really worth \$2@3 more than top quotations, as compared with values ruling on the ordinary run of offerings. Receipts of wine at San Francisco last week were 310,000 gallons, and for preceding week 382,200 gallons. The steamer Baracouta, sailing on 24th, carried 125,461 gallons and 75 cases wine, including 124,313 gallons for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, $\frac{1}{4}$ sks.	114,350	1,986,835
Wheat, ctns.	16,531	746,392
Barley, ctns.	125,732	2,763,391
Oats, ctns.	19,425	475,878
Corn, ctns.	820	47,138
Rye, ctns.	530	22,868
Beans, sks.	60,459	256,483
Peas, sks.	28,285	400,432
Onions, sks.	6,519	70,525
Hay, tons.	2,788	81,965
Wool, bales.	2,430	24,844
Hops, bales.	2,430	16,408

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, $\frac{1}{4}$ sk.	37,168	1,340,544
Wheat, ctns.	632	302,187
Barley, ctns.	206,699	2,246,851
Oats, ctns.	1,181	9,637
Corn, ctns.	559	5,961
Beans, sks.	1,120	12,155
Hay, bales.	10,209	61,624
Wool, lbs.	2,788	1,358,159
Hops, lbs.	4,580	226,718
Honey, cases.		1,849
Potatoes, pkgs.	1,782	28,713

New Patents.

DEWEY, STRONG & Co.'s SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

- FOR WEEK ENDING OCTOBER 13, 1903.
- 741,291.—HYDRAULIC ELEVATOR—J. H. Adams, Alameda, Cal.
  - 741,097.—RAILROAD SWITCH—W. J. Bell, Los Angeles, Cal.
  - 741,471.—CONVEYORS—H. W. Blaisdell, Yuma, Ariz.
  - 741,008.—ROLLER BEARING—F. E. Brooks, S. F.
  - 741,307.—CLOSURE—E. E. Chapman, Los Angeles, Cal.
  - 741,014.—SNAP HOOK—R. F. Covert, Salida, Cal.
  - 741,319.—CLEVIS—J. G. Evans, Baker City, Or.
  - 741,122.—BURGLAR ALARM—W. H. Fletcher, Capitola, Cal.
  - 741,479.—WOOD WORKING MACHINE—H. O. Fry, Cosmopolis, Wash.
  - 741,325.—MOTOR—S. A. Gibbs, Tacoma, Wash.
  - 741,485.—STEAM BOILER—B. H. Green, Los Angeles, Cal.
  - 741,401.—VEHICLE WHEEL RIM—H. Harris, S. F.
  - 741,248.—INDICATOR—F. W. Jones, Santa Paula, Cal.
  - 741,504.—OIL BURNER—W. Kemp, Tucson, Ariz.
  - 741,515.—WINDMILL—T. W. Lowe, Stockton, Cal.
  - 741,355.—COLUMBIUM CELL—W. J. Mathews, Oakland, Cal.
  - 741,608.—AIR DRAFT HEATER—J. McDermott, Berkeley, Cal.
  - 741,272.—GUN—G. D. Potter, Spokane, Wash.
  - 741,009.—SHADE FIXTURE—M. E. Rice, Los Angeles, Cal.
  - 741,373.—CANE—L. R. Robertson, Oakland, Cal.
  - 741,197.—WINDOW SASH—E. Wadey, Los Angeles, Cal.
  - 741,203.—FLUSHING TANK—W. A. Williams, S. F.
  - 741,428.—FRUIT PULP MACHINE—C. R. Wilson, S. F.

"YEA AND NAY OF CITRUS FRUITS," is a finely issued little volume from R. M. Teague of the San Dimas Citrus Nurseries, San Dimas, Cal., handsomely illustrated with views of his citrus nurseries, and containing matter of much practical value to prospective purchasers of citrus stock. The book is beautifully brought out and is worthy of its source.

# MALTHOID ROOFING



For all climates; heat, cold, rain, gases, fumes and fire do not affect it. Comes in rolls ready for laying. Low freight charges. Inexpensive to apply, cheap in the first place and lasts for years.

Send for booklet.

## The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

# California Business College.

"A THOROUGH SCHOOL."

305 LARKIN STREET, SAN FRANCISCO.

75-page Illustrated Catalogue on request.

# HEALD'S

## BUSINESS COLLEGE,

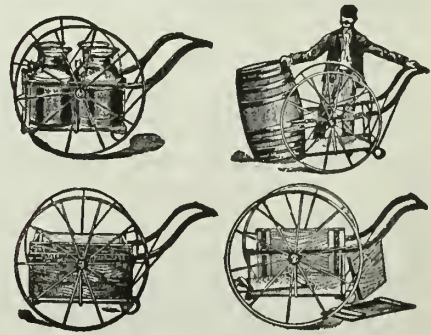
24 Post Street, San Francisco, Cal.

The Leading Commercial School West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.



## No. 2 Butler Steel Hand Cart.

Box is removable; platform low; can't tip over backward. Box 25x26x15. Handles barrels or four large milk cans. Steel frame and steel wheels.

## HOOKE & CO.

16 & 18 DRUMM ST., SAN FRANCISCO, CAL.

## I have for sale the red-roan bull Kingalier 15th.

BRED BY THE W. H. HOWARD ESTATE.


He will be three years old in November. I have his pedigree and registration.

W. C. DALLAS, Atwater, Merced Co., Cal.

## BUFF COCHINS. SILVER GRAY DORKINGS.

Only highest quality. First prizes won at several shows. Eggs \$2.00, express prepaid. White fantail pigeons. HARRY MCINTIRE, San Diego, Cal.





**Best In The World.**

The time-tried remedy which has done duty in every clime, making its way by its matchless curative properties for Spavin, Ringbone, Curb, Splint and all forms of Lameness.

**Kendall's Spavin Cure.**

Thousands of horsemen year after year gladly attest its merits.

Lisle, Ont., Dec. 19, 1902.

Dr. B. J. Kendall Co.,  
Gentlemen:—I have used a great amount of your Kendall's Spavin Cure and I am now on my twelfth bottle. I have found it satisfactory. I have cured dozens of horses, have found it the best remedy I ever got hold of. We can get it right here in town. There have been dozens of people asked me about it and I said "it is the best stuff in the world for Spavine, Curls, Sprains and many other things." They went and got a bottle and tried it and said it was just the best they ever got. I have been dealing in horses for twelve years and I never found anything to equal Kendall's Spavin Cure. Please send me one of your books so that I can tell the people more about it, and you will oblige.

JOHN RUSSELL HUNTER

Price \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address  
DR. B. J. KENDALL CO., Enosburg Falls, Vt.

## THE IRRIGATOR.

Report of the Reclamation Service.

A mass of interesting details is contained in the first annual report of the Reclamation Service, Department of the Interior, very recently printed and distributed. This covers substantially six months, June 17 to December 1, 1902. It appears that systematic work has been carried on in Arizona, Colorado, Idaho, California, Kansas, Nebraska, Utah, Wyoming, Oregon and Washington. Preliminary temporary withdrawals of vacant public lands have been made, the extent of these changing from time to time as occasion demands. What is popularly known as the reclamation law was approved June 17, 1902. Provision was made for the examination, survey and construction of irrigation works required to reclaim public lands. For this purpose there were appropriated the receipts from the sale of public land in the sixteen States and Territories of the arid region, this money constituting what is known as the reclamation fund. The law provides for the entry of lands reclaimed in accordance with the provisions of the homestead law, which is modified in certain important particulars for the protection of bona fide settlers.

**PROGRESS UNDER THE NEW FEDERAL LAW.**—The irrigation law applies to the States above named, also to the Dakotas, New Mexico and Oklahoma. It is regarded so general in its terms that the success or failure might be said to rest almost wholly upon its administration, which is under the care of the Secretary of the Interior. The report says that in each irrigation project under contemplation the conditions are being sifted down to one wherein judgment must be exercised; whether, for instance, it is better to reclaim a certain body of good land at a cost of \$12 per acre, or a larger body of less valuable land at \$10 per acre. It is impossible to state in advance the plans which ultimately might be recommended for reclamation.

The fact that the lands have been temporarily set aside, is, in the eyes of many, an indication that these lands will be reclaimed; and although every attempt has been made to warn individuals of the futility of filing upon such under the homestead law, yet they persist in taking up the land on the bare possibility that the surveys and examinations will ultimately show these lands to be reclaimable. It is an unfortunate condition which apparently cannot be corrected at present. The surveyors must traverse great areas before they can select the best projects, and it is essential to preserve the land in advance of their going into the field.

In summarizing the work of the six months it may be said that the more important or more obvious opportunities for reclamation are being exam-

ined. Large areas have been temporarily withheld, excepting under the homestead law, and the lands not needed will be restored to general entry as rapidly as the final plans can be made and signed, undoubtedly to be ready for submittal early next spring.

In his highly interesting report, Chief Engineer F. H. Newell presents many exhibits, including charts showing the extent and various other features of the semi-arid region grazing and irrigable lands, distribution according to States and Territories, forest reservations, etc. The history of the irrigation movement cannot be recorded in our limited space, and the salient points have been fully covered at various times the past year or more.

**OPERATION OF THE CAREY LAW.**—The report summarizes the operation of the Carey act, which became a Federal law in 1894, inaugurating a plan of turning over lands to the States for irrigation by any means which they may choose to adopt. This law in brief made a donation of 1,000,000 acres of desert land to each of the States in the arid region, provided they should cause the same to be irrigated and reclaimed. It was subsequently amended and extended. During the eight years of its operation, 1894-1902, the report shows among other things that in seven States and Territories applications had been filed on a total of 1,189,579 acres; approved and patented 11,321 acres in Wyoming; approved but not patented 569,476 acres in Idaho, Wyoming, Montana and Oregon; relinquished, rejected and otherwise disposed of 572,903 acres in six States and Territories, and pending before the land office 35,878 acres.

This means that in the eight years since the passage of the act applications have been filed for less than 1,200,000 acres, by seven of the States out of the maximum of 7,000,000 acres, which these States could have filed upon, while four other States which might have taken advantage of the act have done nothing. Applications for less than 600,000 acres have been presented in such form as to receive the approval of the department, but of this number only 11,321 acres have been patented, showing that for only this small amount the proper proofs of reclamation have been submitted. It is the opinion that no extensive action has been taken to obtain the benefits which might be possible under the Carey act; this leading up to the tenable position taken by advocates of the new reclamation law, which has just gone into effect.

**PLANS UNDER THE NEW LAW.**—The amount available in the reclamation fund arising from the sale of public lands under the irrigation act was \$3,144,821 in 1901. The report placed the estimated funds for 1902 at \$4,600,000, a total for the two years of \$7,744,821. The receipts in the various States and Territories are not in proportion to their needs in irrigation construction. But the general authority given to the Secretary of the Interior under the law will enable him to consider the needs of the various States, without being too closely bound by the proportion in which the sales of lands therein contributed to the reclamation fund.

This will enable the department to

The dealer who sells lamp-chimneys to last, is either a shrewd or an honest man.

MACBETH.

How to take care of lamps, including the getting of right-shape chimneys, is in my Index; sent free.

MACBETH, Pittsburgh.

take up some of the projects most urgently needed in those States without awaiting the collection of sufficient funds to cover the expense of construction. Chief Newell expresses the belief that a surplus so expended in a particular State or Territory will be promptly returned to the fund; subsequently at the end of ten years the equalization contemplated by the law will be brought about.

## Removal Notice

—OF—  
The CUTTER ANALYTIC LABORATORY.

On account of extreme summer heat interfering with laboratory processes, WE HAVE MOVED OUR LABORATORY FROM FRESNO TO BERKELEY.

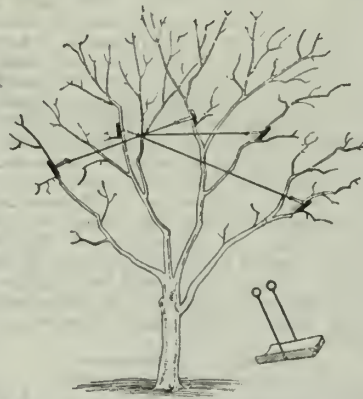
Our head office is in the Rialto building, corner Mission and New Montgomery Streets, San Francisco. Our P. O. address is

The CUTTER ANALYTIC LABORATORY,  
Station "K," San Francisco.

OUR SPECIALTY IS  
**CUTTER'S  
BLACK LEG VACCINE.**

Write for BLACK LEG booklet.  
If your druggist does not stock our products, order direct from us; we pay all transportation charges.

## SOMETHING NEW UNDER THE SUN.



A Cheap, Effectual and Permanent Method of Propping Trees.

Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

HOYT'S TREE SUPPORT CO.  
WATSONVILLE, CAL.

Or, R. M. TEAGUE, San Dimas, Cal.  
Distributor for Southern California.

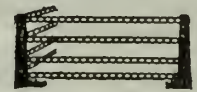
FOR INFORMATION REGARDING  
**PUMPS,  
HORSE POWERS,  
GRAPE PRESSES,  
OLIVE PRESSES,**  
Write **KROGH MFG. CO.,**  
519 MARKET ST., SAN FRANCISCO.



**Eames Tricycle Co.,**  
Patentees and Manufacturers of Improved designs of Tricycles, Tricycle Chairs for Invalids, and various models of rolling Chairs.  
47 Chairs sold, rented and exchanged.  
Illustrated Catalogue mailed on application.  
**EAMES TRICYCLE CO.,**  
2020 Market St. San Francisco.  
534 S. Broadway, Los Angeles.

## TRUSS and CABLE FENCING

Is Easy to Handle.



Truss and Cable Fencing is put up in compact coils or reels weighing about 100 pounds each thus making a very convenient package to handle on the field. Two men with horse sense and no mechanical ability can put up a fence without special tools of any kind. Truss and Cable Fencing is suitable for cattle, sheep and hogs. Its life is twice as long as barbed wire or woven wire fences.

Write for descriptive circular.  
**Pacific Hardware & Steel Co.**  
401 Mission Street, San Francisco.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!

**MOTOR VEHICLE CO.**

A. C. Wheelock, Mgr.  
1814 Market Street, SAN FRANCISCO, CAL.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

**DEWEY, STRONG & CO.**

(ESTABLISHED 1860.)

PATENT AGENTS,  
330 Market St., San Francisco, Cal.  
—AND—  
918 F St., Washington, D. C.



BREEDERS' DIRECTORY

HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of **EVERY** butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr. old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr. olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

SWINE.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHBRED POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUDOC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

POULTRY.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

SHEEP AND GOATS.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in **Poultry Supplies** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M't'rs of Pacific Incubator and Brooder. Send for Catalogue.

**FOR SALE.** Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

**RED CROSS WIND MILLS**  
ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURN-TABLE. SEND FOR CATALOGUE. MAILED FREE.  
**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering,** Surveying, Architecture, Drawing and Assaying. 113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

**Open All Year.** A. VAN DER NAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

THE APIARY.

Horses and Bees.

A few days ago it became necessary to draw in some grain from alongside of the home apiary of some 160 colonies. The bees were working hard at the time on buckwheat just west of the yard. Through overconfidence, the men in charge of the horses (a spirited team) were told to drive right up against the apiary where the bees were flying by the thousands against a strong wind. A few bees at once attacked the horses which could not be induced to move, one throwing itself in the harness. The bees then literally poured out on the horses by the thousands, and the men, after vainly trying to get the horses to go, and after receiving a lot of stings, concluded that 'twas better to fight and run away, and live to fight another day, so accordingly took "leg bail" on double-quick time.

Being only a short distance away at the time, and hearing the noise, the writer arrived on the scene of action bare-headed and in his shirt-sleeves. Needless to say he met with a very warm reception. After with great difficulty unhitching the horses by the assistance of a brother, who had now arrived, and by the free use of the whip induced them to leave the place slowly, covered with swarms of angry bees.

The poor brutes were literally stung over every inch of their bodies, and it was thought that they would certainly die. Salt was given to them as soon as possible, but owing to the way they kicked and plunged after being put in the stable, hardly anything could be done by the way of removing the stings. However, they have pulled through, and to-day (a week after the stinging) they appear to be improving nicely, although their bodies are covered with lumps full of pus which are now discharging. While the writer received hundreds of stings on the head, face and neck, aside from a severe pain in the head for about an hour, no serious effects were felt. To be sure, there was a little puffing about the face, but not nearly as much as I have often seen from the effects of a single sting.

I merely relate this as a warning to others to use judgment when it is necessary to bring horses near a large apiary, as no one who has never witnessed the blind, impotent fury of bees when angered in this way, can form any idea of their vindictiveness in such cases.—Canadian Bee Journal.



There are DOGS and DOGS. If you want the BEST get Thoroughbred Scotch Collies **TOKAYANO KENNELS** Colfax, Placer Co., Calif.

**Cocoanut Oil Cake.** THE BEST FEED FOR STOCK, CHICKENS AND PIGS. For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.** 208 California St., San Francisco, Cal.


**BULLS FOR SALE.** Registered and High-Grade SHORTHORNS.

All Inoculated for Texas Fever, at **OHOWHILLA STOCK FARM.** Address.... **ISAAC BIRD,** Merced, Cal.

**Hunters' & Trappers' Guide** A \$5000. BOOK 200 pages, cloth bound. Illustrating all fur animals. All about trapping, Trappers' secrets, all kinds of traps, decoys, etc. Special Price \$1.40 for shippers postpaid. We buy Raw Furs, Hides. Price List free. **ANDERSON BROS.,** Dept. 841, Minneapolis, Minn.

**U S U S U S U S U S U**

**Convincing Evidence That the U. S. is the Best and Most Popular Separator**



ROCHESTER, MINN., Sept. 2, 1903.

I have handled the U. S. Separator for the past five years. The first year I sold about 46 machines. Looking over my books this spring, five years later, I find there are 30 out of the 46 sold the first year that have cost their owners not one cent for repairs during the five years they have run them. Altogether I have sold about 270 U. S. Separators.

P. D. ANDERSON KEEL.

**THE U. S. SEPARATOR PLEASES OTHERS AND WILL PLEASE YOU IF YOU WILL GIVE IT AN OPPORTUNITY.**

*If interested write for catalogue.*

We transfer our separators from Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Hamilton, Ont., Montreal, Sherbrooke and Quebec City. Address all letters to **Vermont Farm Machine Co., Bellows Falls, Vt.** 335

**U S U S U S U S U S U**

CHAS. D. PIERCE, Pres. W. FRANK PIERCE, Vice-Pres. **RIVERSIDE HERD HOLSTEINS.**

**PARTIES WANTING FIRST CLASS YOUNG BULLS** will do well to write us. Prices reasonable, breeding and quality considered.

Our herd contains more advanced registry cows than all other herds on the Pacific coast combined. The foundation animals have been very carefully selected from the very best in the United States, regardless of cost. The following are our advanced registry records to date:

Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz butter yield in 7 days.	Name.	Lbs. of milk in 7 days.	Age.	Lbs. and oz butter yield in 7 days.
Romeo Aaggie Acme	431	7 yr.	26.11 oz.	Corona Clifden	410	6 yr.	16.3 oz.
Fidessa	570	4 "	25. "	Minnewawa Salambo, 3 teats	403	4 "	16.1 "
Matty Clay's Aaggie 2d	499	7 "	23.15 "	Mountain Juliet	382	7 "	15.14 "
Netherland Maud Moore	511	5 "	23.11 "	Minnewawa Duchess, 3 teats	338	4 "	15.6 "
Minnewawa Louise	510	4 "	22.9 "	Lady Kurts Alpa	378	6 "	15.2 "
Nicolo De Kol	484	3 "	22.4 "	Pauline Sadie De Kol	367	3 "	15.2 "
De Natsey Baker	401	7 "	21.10 "	Eva Blanco	355	2 "	14.5 "
Ruda 2d Belle	401	7 "	20.9 "	Corona Acturas	344	2 "	14.1 "
De Kol Konigen Van Freisland	440	8 "	20.9 "	Kornd ke Pietertje Queen	340	2 "	13.14 "
Minnewawa Lily	384	4 "	20.4 "	Aral a De Kol	332	2 "	13.7 "
Drosky Artis	460	6 "	20.4 "	Oleander De Kol	324	2 "	13.1 "
Griselda of Brookfield	512	6 "	20.3 "	Rijaneta Clothilde 2d	312	2 "	13.2 "
De Kol of Valley mead	435	4 "	19.9 "	egris Pietertje De Kol 2d	355	2 "	12.11 "
Wynetta Princess	391	2 "	18.7 "	Western Princess	294	3 "	12.11 "
Drusa	399	5 "	18.4 "	Painted Lady	327	3 "	12.10 "
Wakalona	393	5 "	18.3 "	Mary Ann De Kol	391	3 "	12.10 "
Olympia Clay	526	6 "	18.2 "	Miranda Acturas	325	3 "	12.3 "
Victor Idlewill 1 2n	371	4 "	17.9 "	Rhoda De Kol Colantha	353	2 "	12.6 "
Casrade Princess	479	8 "	17.2 "	Hengerveld Lass	306	2 "	12.2 "
Western Duchess	387	7 "	16.6 "	Princess Louise De Kol	289	2 "	12. "
Aaggie Martin	416	6 "	16.12 "				
Rom. Princess	366	3 "	16.8 "	Wild West De Kol	279	2 "	10.10 "

WE ALSO HAVE PRIZE WINNING BERKSHIRES. YOUNG STOCK FOR SALE.

**PIERCE LAND AND STOCK CO.**

Address all communications to City office, 14 TURK ST., SAN FRANCISCO. Phone, SOUTH 103 **STOCKTON, CAL** Phone, SUBURBAN 281.

**"EMPIRE KING" SPRAY PUMP.**



the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. **Specially Adapted to Distillate Emulsion.** We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO.,** Lockport, N. Y.

**California Spray Pump Co.,** Sole Agts. for California. P. O. Box 717. 134 S. Broadway, Los Angeles, California.

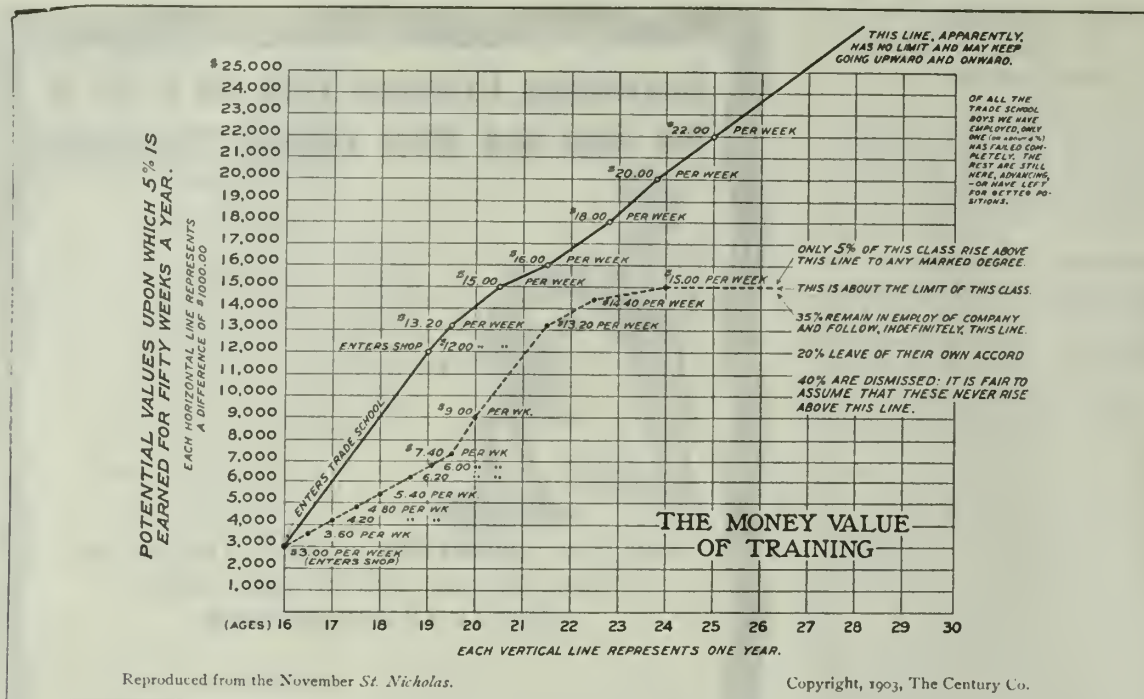
**Emery's Poultry Foods** are sold by all dealers and commission men because they are the **BEST**

**MANUFACTURED BY N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

**CHEAP RATES** California, Washington Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.) **TRANS-CONTINENTAL FREIGHT CO.,** G 26 Montgomery St., San Francisco. G 325 Dearborn St., Chicago. G 338 So. Broadway, Los Angeles.

Telephone Main 199. **BLAKE, MOFFITT & TOWNE,** DEALERS IN PAPER, Nos. 55-57-59-61 First St., San Francisco, Cal. **BLAKE, MOFFITT & TOWNE** Los Angeles. **BLAKE, McFALL & CO.** Portland, Or.





THE above diagram, reproduced from an article in the November St. Nicholas, on "The Money Value of Training" by James M. Dodge, president of the American Society of Mechanical Engineers, illustrates Mr. Dodge's arguments that an untrained boy of sixteen, in good health, represents a potential value of \$3,000 on entering a trade school or shop—that is, he is worth to his employer five per cent. of \$3,000, or \$150 a year; that the shop-taught lad in nine years has increased his potential value at the rate of \$1,300 per annum, while the trade-school man's investment in himself has been at the rate of \$2,100 per annum. The untrained lad will earn \$15 a week at twenty-four years of age (and only five per cent. of this class ever earn any more), while the graduate of the trade school reaches this earning capacity between twenty and twenty-one, and is getting \$20 a week before he is twenty-four, with unlimited possibilities for the future. Mr. Dodge urges, backing his arguments by facts and figures, of which the diagram is an effective summary, that the best investment any boy can make is to "invest himself" by increasing his own potential value. This result, Mr. Dodge points out, is gained most thoroughly and effectively by training.

## The SHARPLES Tubular Separators.

There are two kinds of cream separators and only two. **OURS** and the **OTHERS**. The tubular bowl. The basket bowl. The patent protected kind. The free for all kind. The bowl without complications, that is easily cleaned. The entirely clean skimmer under all conditions. The bowl to give trouble kind. The can't get out of order kind.

There is a lot of real difference in the two kinds and it amounts to big money in a year's time. Investigate. Separators are different. Free Catalogue No. 131. **P. M. SHARPLES,** West Chester, Pa. **THE SHARPLES CO.,** Chicago, Ill.

**75%** That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables. **THIS MACHINE AND ALL**

**OHIO**

**FEED AND ENSILAGE CUTTERS** are the strongest, most durable, largest capacity machine made. A full stock is carried. We have the most successful **Direct Blast Blower Elevator.** SEND FOR "A Book on Silage" BY PROF. F. W. WOLL **AN ACRE OF CORN** and its possibilities. Gen'l Agts. **HOOKER & CO.** 16-18 Drumm St. **SAN FRANCISCO**

Price, 10c in stamps

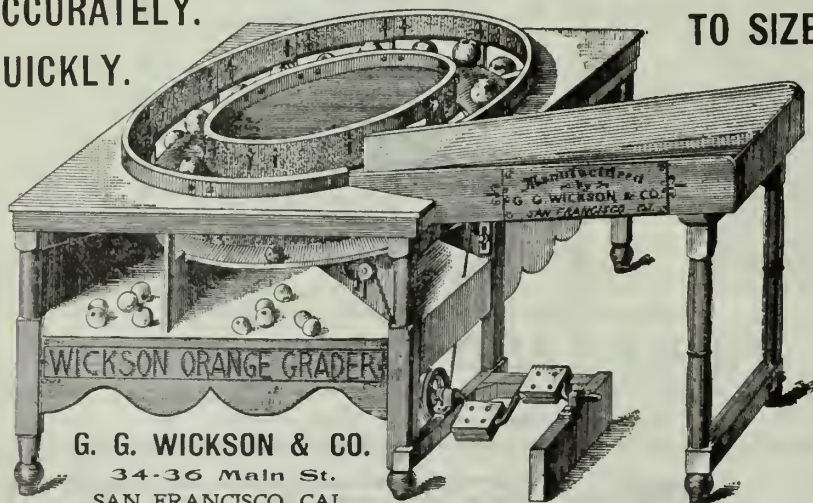
**"Stowe's RED LABEL" Squirrel Poison** WILL KILL YOUR SQUIRRELS. Satisfaction Guaranteed.

Prepared by C. A. STOWE, STOCKTON, CAL.

## DON'T BUY GASOLINE ENGINES

until you have investigated "The Master Workman," a two-cylinder gasoline engine, superior to all one-cylinder engines. Cost less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-5-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. **THE TEMPLE PUMP CO.,** Estab. 1853. Meagher and 15th St., CHICAGO.

## ORANGES GRADED ACCURATELY. QUICKLY. TO SIZE.



[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

TAKES THE PLACE OF SHINGLES, TIN, IRON, TAR AND GRAVEL, and all prepared roofings.

For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed.

It will pay to ask for prices and information.

**THE ELATERITE ROOFING CO.,**  
713 Market Street, San Francisco.

**FRANCIS SMITH & CO.,**  
—MANUFACTURERS OF—

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes. 83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.	Artichokes.	Peppers.
Farmers' Gardens in California.	Beans.	Potatoes.
California Climate as Related to Vegetable Growing.	Beet.	Radishes.
Vegetable Soils of California.	Cabbage Family.	Rhubarb.
Garden Irrigation.	Carrot, Parsnip, and Salsify.	Spinach.
Garden Drainage in California.	Celery.	Squashes.
Cultivation.	Chicory.	Tomato.
Fertilization.	Corn.	Turnip.
Garden Location and Arrangement.	Cucumber.	Vegetable Sundries.
The Planting Season.	Egg Plant.	Vegetables for Canning and Drying.
Propagation.	Lettuce.	Seed Sowing in California.
Asparagus.	Melons.	Garden Protection.
	Onion Family.	Weeds in California.
	Peas.	

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## THE VETERINARIAN.

## A Statement from Dr. Blemer.

To THE EDITOR:—Concerning the truth of Mr. E. A. Cutter's statements in his "Protest against the unofficial acts of the State Veterinarian" in your issue of the 17th inst., I beg to submit the following communication from Mr. W. A. Chalfant, editor of the Bishop Register, Inyo county, Cal.:

DR. C. H. BLEMER, State Veterinarian, Sacramento, Cal.—Dear Sir: The letter of the Cutter Analytic Laboratory, in the PACIFIC RURAL PRESS of 17th inst., reaches me here. It refers to a paragraph in the Inyo Register, mentioning the United States Vaccine Co. as "the only large vaccine producing concern on the coast," as being evidently inspired. The context of the Cutter letters shows that you are held responsible for having instigated the statement. I take pleasure in stating here, as I have before to the Cutter people, that the objectionable statement was not "inspired" in any way, nor was it published by the request of yourself or any other person. On the contrary, instead of your suggesting any such printed statement, I recall that you refused to be quoted on the subject, and did not suggest the publication of any such statement. Neither did you, so far as I know, recommend the United States vaccine unduly. The suggestion was made that vaccine made on the coast could necessarily be obtained fresher than that made in the East, and to that extent would be preferable, to which you assented. You stated, also, that United States vaccine had been successfully used by some large San Joaquin valley stock-growers. You did not, so far as I am aware, urge the use of United States vaccines to the exclusion of others, but gave advice concerning proper use of vaccines of all makes asked about. You did not urge wholesale vaccination, as might be presumed would be the case were you working for a manufacturer. Instead, my report shows that you counseled against vaccination in many cases where selling agents say vaccination should be done. I believe the statement that you assumed ignorance concerning the Live Stock and Dairy Journal is without foundation. I was present at the meeting mentioned in the Cutter letter, and recall no such incident; on the contrary, I know that in conversation you did show acquaintanceship with the Journal. Your visit to Inyo was, I am sure, appreciated by stock-growers there. It was felt that your advice was conscientiously given, and its effects was unquestionably profitable to the people. I am sure that no just suspicion of any ulterior motive can properly attach to your stay in our county.

Yours truly, (Signed) W. A. CHALFANT.

Mr. Chalfant further informs me that he first received a communication relative to this "inspired" article from Dr. Archibald R. Ward, Veterinarian at the University of California, and that he replied to Dr. Ward and Mr. Cutter, that the article in question was not "inspired by any one." I fail to understand why Professor Ward should take such a marked interest in this affair. I was once so unfortunate as to have business associations with Mr. Cutter, and my consequent knowledge of him leads me to believe that the object of his alleged protest was not so much to right a wrong as to gain free advertising space.

I care nothing as to the size of his laboratory, or the climatic causes of his removal from Fresno to Berkeley, but now that the gentleman has mentioned it, I do recall something to the effect that there was a "warm unpleasantness" between Mr. Cutter and a few of Fresno's prominent physicians. I deny that I have ever used my position as State Veterinarian to recommend any bacteriological products other than those of the Bureau of Animal Industry, United States Department of Agriculture. I did recommend these products to the stockmen of Inyo county, and it was so published in the Bishop Register, as was also my statement that "vaccination does not insure immunity, and may not protect the animal longer than a year, its effectiveness depends on the vaccine; if this is too weak it does no good; if too strong it may develop genuine anthrax. The difficulty of proper attenuation in manufacture makes the quality variable, and as it deteriorates with age it is advisable to use only fresh vaccine." A prominent physician of Bishop took the pains to test some anthrax vaccine sold there, and found it to be absolutely worthless, and at my suggestion arrangements were to be made by the Inyo Board of Supervisors for testing all vaccines sold in the county.

\* \* \* \* \*

CHARLES H. BLEMER,  
State Veterinarian.  
Sacramento, Oct. 27, 1903.

RECLAIMING LOW LANDS.—Dixon Tribune: Titus & Spring, San Francisco capitalists, have purchased about 4000 acres of the low lands southeast of Dixon and have begun the construction of a levee to keep out the flood waters from the Sacramento river. The tract comprises the well-known Geddes ranch and adjoin-

ing lands, a part of which has been levied before, but the work went for naught from the fact that the land in that section is extremely loose and washes easily. The land to be reclaimed is very productive and yields handsome returns whenever farmers who have operated upon it have been able to keep flood waters off.

P. M. SHARPLES, manufacturer of the Sharples tubular separator, West Chester, Pa., is again enlarging his plant.

WANTED.—One or more carloads of Cat Tails, (Flag.) For particulars, call or address Brown & Abraham, 330 Market St., Room 510, San Francisco.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

## ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK, Rocky Ford, Colo.

## FOR SALE.

100,000 Mission Rooted Grape Cuttings,  
30,000 Thompson Seedless Rooted Grape Cuttings,  
3,300 Assorted Peach Trees.

All Healthy and in Excellent Condition.  
For particulars, address E. R. DUBRUTZ, Public Administrator, Tulare Co., Cal.

## GINSENG.

Cultivate Ginseng and get rich; sells for \$8.00 per lb.—1/4 acre yields in five years 2083 lbs. dried root, selling for \$16,664.00. Plant seed now. Package seeds and instructions on cultivation, \$1.00.

JOHN FAGAN, St. Joseph, Mich.

Checkmate Frost!  
Save Fruits!

USE

Griffiths-Munson Briquettes.

Burn on ground three to four hours. No kindling required. Twenty-five fires per acre. Two to three briquettes to fire, according to exposure. If temperature moderates, can be extinguished and used again until consumed. Water does not affect them. Strong heat in three minutes.

For further particulars, apply to

GRIFFITHS-MUNSON BRIQUETTE CO.

128 HELLMAN BLOCK, LOS ANGELES, CAL.

3-HORSE POWER  
Webster Gasoline Engine.  
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.  
SEND FOR CATALOGUE.  
WOODIN & LITTLE,  
312 Market St. San Francisco, Cal.

MASON'S O.K. GATE  
PATENTED-AUG 24-1894  
IMPROVED-JAN 12-1903

THE CREAM OF PERFECTION IN THE SELF-OPENING GATE LINE  
THE LLOYD CO.  
SOLE AGENTS AND MANUFACTURERS  
FALUNIA, CAL.  
WRITE FOR OUR CATALOGUE

PAGE

## 1,500 FEET OF WIRE

from the Page Fence that stopped the big runaway racing auto at the Zanesville, O., fair, was cut up into short pieces and carried away as souvenirs by the people who saw the tragic accident in which so many were killed or injured.  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

WIRE FENCE  
HOG CATTLE POULTRY NETTING BARB WIRE  
WEST COAST WIRE & IRON WORKS  
15 FREMONT ST. SAN FRANCISCO.

## Seeds, Plants, Etc.

## TRUE'S NURSERY

WILL BE REMOVED FROM

Forestville to Sebastopol.

Correspondence Solicited.  
Price List will be ready soon.

T. J. TRUE, Sebastopol, Cal.

A MONOGRAPH  
ON THE  
ORANGE AND LEMON

Is yours for the asking. It treats on planting, cultivating, pruning, irrigating, harvesting the crop, and all the leading varieties. Fully illustrated with many fine half-tone engravings showing typical orchards, with a description of our methods for producing vigorous citrus trees that will grow and are true to name.

SAN DIMAS CITRUS NURSERIES  
SAN DIMAS, CAL.

## TREES.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

## BULBS

FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

TRUMBULL & BEEBE,

Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.

## Largest Nursery

West of the Rocky Mountains

## CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

## RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000

FANCHER CREEK NURSERIES Inc.

GEO. C. ROEDING, PRESIDENT AND MANAGER  
P.O. BOX 18  
FRESNO, CAL.

## CHICO NURSERY CO. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS, BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get swamped with work next spring?

BUY  
STURDY  
CHICO  
TREES.

CHICO NURSERY CO., 1200-3rd St. Chico, Cal.

## Bargain in Citrus Trees.

We have for sale several thousand fine orange trees—leading sorts—for sale at special rates if taken before Dec. 1st. Headquarters for trees on trifoliata or frost resistant root.

WAGNER'S NURSERY,

Tel. Res. Sub. 108.

PASADENA, CAL.

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries SPECIALTIES.

These Dewberries have produced over 5 tons of fruit on 1/2 acre. For descriptive list, address

W. J. EMBREE,  
Rural Box 61. El Monte, Los Angeles Co., Cal.

## COX SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

## BULBS

Now is the time to plant

HYACINTHS, TULIPS, NARCISSUS,

SPANISH IRIS, RANUNCULUS,

ANEMONE, ETC.

Send for our Bulb Catalogue.



(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be *removed instantly* without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

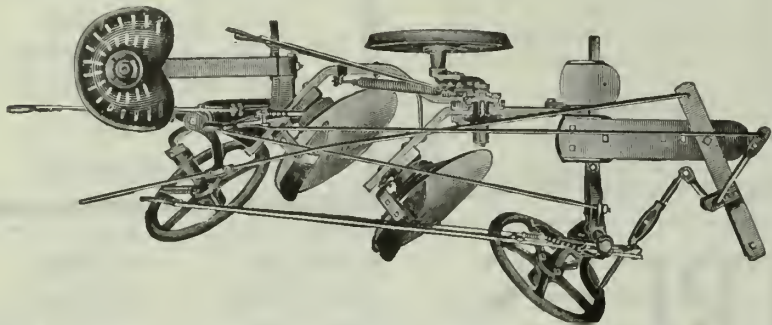
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

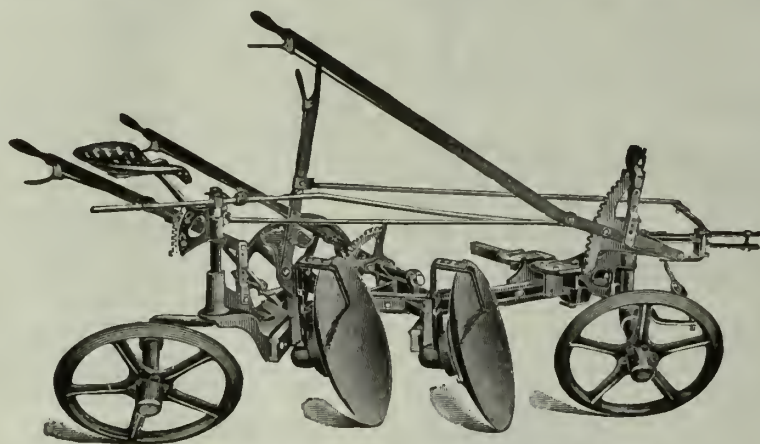
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.

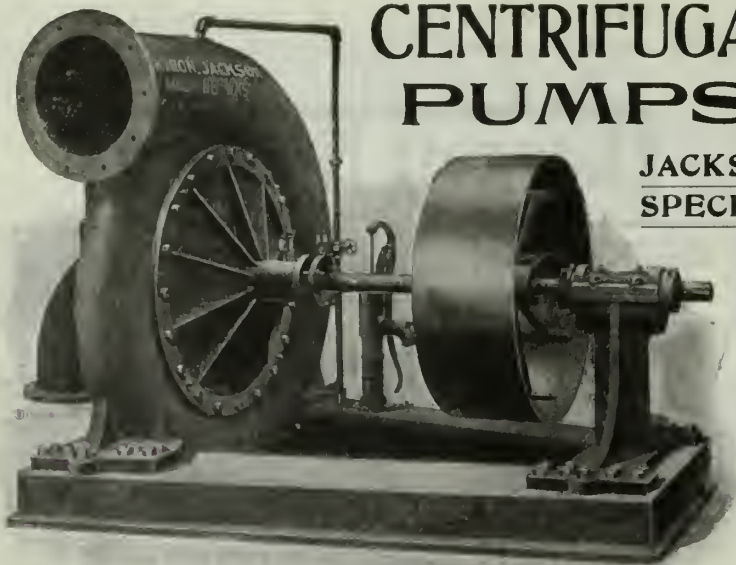


"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.



## CENTRIFUGAL PUMPS.

JACKSON  
SPECIAL.

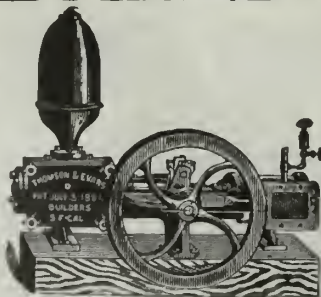
Reliable engineers who have witnessed our tests will testify that the Jackson pump gives an efficiency of 80%. **THE BEST IS ALWAYS THE CHEAPEST.**

BYRON JACKSON MACHINE WORKS, 411 MARKET ST., SAN FRANCISCO.  
Write for Catalogue E.

## C. H. EVANS & CO., Machine Works.

Thomson & Evans  
Steam Pumps.

DEEP WELL  
and  
POWER PUMPS.



MARINE ENGINES.

SHIP and STEAMBOAT  
WORK.

PIPE CUTTING, Etc.

183-185-187 Fremont St  
SAN FRANCISCO.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

ALLISON, NEFF & CO.

## HAVE YOU SEEN THE Jack of All Trades

—A GASOLINE ENGINE

of the most modern type for farm use?  
Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."

Fairbanks, Morse & Company,

San Francisco, Los Angeles,  
Portland, Or.



## NATIONAL WOOD PIPE CO. WOOD PIPE.

Woodward Patent Machine Banded.  
Wheeler Patent Continuous Stave.

Los Angeles Office: 6th and Mateo Sts.

San Francisco Office: 301 Market St.

A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 19.

SAN FRANCISCO, SATURDAY, NOVEMBER 7, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## Another Glimpse at the Grasshoppers.

Following the lead of last week we take another glance at the grasshopper problem in California, and especially at two methods of holding them in check, viz., burning and drowning. Last week there was an account of burning dry pasture adjoining orchard or vineyard, or other cultivated area, to consume the pests which gather on the pasture before invading the cultivated crop, and there was reference also to burning large areas of the foothills before the hoppers can go far from their hatching places on these wild lands. Prof. Woodworth of the State University, in his bulletin on the general subject, which we mentioned last week, says that his observation and the testimony of those who have burned their fields is that it is a thorough way to ridding breeding grounds of the hoppers before they can escape to do injury elsewhere. Two pictures on this page illustrate this method: One showing the field on fire, the other the aspect after the burning, in which good work was done. Prof. Woodworth admits that this method is not without objections, the chief of which is the loss of the pasturage. As to how great this loss is there is difference of opinion, some claiming that it really amounts to very little, since a new growth will take place as soon as the rains come; and some pasture lands are regularly burned over and remain well stocked with grass. Others contend that unless the rainy season is particularly wet a large percentage of the seed in the soil will fail to germinate, and that the destruction of the seed on the surface also decreases the grass to such an extent that it requires several years of ordinary rainfall before the pastures are able to carry their normal quantity of pasturage. Still others claim that even if the succeeding season is unusually good, the destruction of the seeds is so great that the pasturage does not come up to the normal for several years. It is probably safe to assume that there will be considerable loss from burning. Indeed, the

settling for a considerable bill of damages, in case of the accidental burning of pastures from sparks from the engines, is very good evidence that loss is produced.

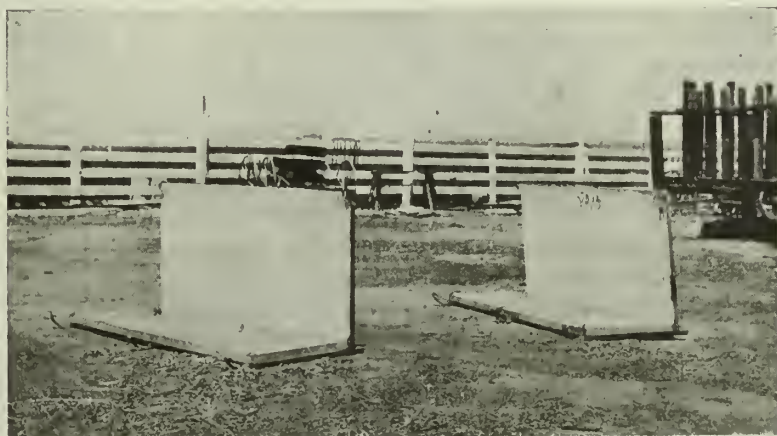
If burning is adopted as a method of fighting grasshoppers there should be ample provision made whereby those whose lands are burned over are indemnified to the extent of the loss suffered. We are inclined to think that this method of fighting grasshoppers should be adopted only as an emergency measure, in case other methods fail, and only when the hoppers are in such great numbers as to constitute a very serious menace to adjacent fields, or when the area is so large that there is great



Burning Breeding Grounds to Destroy Grasshoppers.



The Burned Field Showing Barrenness of the Ground.



Hopper-Dozers for the Destruction of Grasshoppers.



Hopper-Doser Showing Its Catch of Dead Grasshoppers.

control at our command. The hopper-doser is very simple in construction, consisting of a shallow galvanized iron pan of any convenient dimension; those in use the last season in the university experiments were about 6 feet long by 3 feet wide, with the edges turned up about 1 inch. These pans are mounted upon wooden runners, 1 inch thick, shod with hoop irons beneath and having along their back a vertical screen of cloth intended to prevent the hoppers leaping entirely over the pan. The construction of these pans will be very clearly understood from the figures on this page.

In the bottom of the pans crude oil is placed. This is usually prevented from flowing and splashing out by a layer of cloth, such as grain sacking. In front of this apparatus at a convenient distance, say about a foot, there is hung a light pole, with drags upon the ground and frightens the hoppers. As they jump into the air they are caught upon the pans and wetted with the oil. Very often they again hop out of the pan, but will usually have gotten enough oil upon them to cause their death; a great many die in the pans, so that they have to be emptied and new oil added from time to time. The amount of oil used is really a small item, however, and a great deal of territory can be covered in a single day. It is better in using the hopper-dozers to have a number following each other like the plows in the gang-plow, so as to sweep large swaths across the field. Under favorable circumstances a large percentage of the hoppers will be killed by once going over the fields. It may be desirable, however, in most cases to repeat the operation once or twice. With the proper inspection of the breeding-grounds in the State, and the use of hopper-dozers under competent direction, it would seem possible to entirely control the insect.

The hopper question cannot be considered as finally settled until the insects are brought under practically complete control. This complete control, as already indicated, can only be accomplished by attacking them in their breeding grounds.

action of the railroad companies in danger of flying swarms being developed.

Prof. Woodworth believes that the use of the hopper-doser upon the breeding-ground is a method which at the present time promises most for the control of grasshoppers. There is a long period, at times two or three months, in which it can be used. The cost of its application is really very slight. Its effectiveness has been demonstrated in many hopper regions, though never extensively used in California. The lands in which the insects appear are open, rolling ground upon which the hopper-dozers can be easily used, so that this appears to present the most practical means of hopper



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

**TWO DOLLARS PER YEAR IN ADVANCE.**  
Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers  
E. J. WICKSON Horticultural Editor

SAN FRANCISCO, NOVEMBER 7, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Burning Breeding Grounds to Destroy Grasshoppers; The Burned Field Showing Barrenness of the Ground; Hopper-Dosers for the Destruction of Grasshoppers; Hopper-Doser Showing Its Catch of Dead Grasshoppers, 289.  
EDITORIAL.—Another Glimpse at the Grasshoppers, 289. The Week, 290.  
QUERIES AND REPLIES.—Roselle Root Knot; Resistant Vines—Disinfection—Late Growth of Vines; Unsatisfactory Raisins, 290. The Dieback of Prunes; Fruit Scions for Mexico; Comparative Values of Animal Manures; Oil Burning for Dodder; Curing Hams and Bacon; Trapping the Canker Worm Moth; The Santa Cruz Mountains, 291.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Nov. 2, 1903; Temperature and Rainfall, 291.  
AGRICULTURAL SCIENCE.—Simon Simple Answers Questions on Fertilizers, 292.  
THE DAIRY.—Pasteurization as Applied to Creamery Work, 292.  
THE POULTRY YARD.—Hints on California Houses and Yards; Egg Laying Contest; A New Establishment Below San Jose, 293.  
FORESTRY.—Eucalyptus at Home in the Philippines, 293.  
HORTICULTURE.—Canadian Law Relative to Imports of Nursery Stock, 293.  
THE FIELD.—The Hemp Crop at Gridley, 293.  
FRUIT MARKETING.—What Cubans Expect in the United States, 293. Prune and Walnut Trade in Hungary; French Almond Crop, 294.  
THE VETERINARIAN.—Answers to Queries—Treatment for an Abscess; Bad Teeth—Worms; Scours in a Horse; A Cow With Scours, 294.  
AGRICULTURAL REVIEW.—295.  
THE HOME CIRCLE.—The Farmer Feeds Them All; In Love's Own Way; Curiosity Gratified; Drugs; Ways of Cooking Eggs, 296.  
THE HABIT OF NOT FEELING WELL; Just Like Her; Domestic Hints, 297.  
THE MARKETS.—Produce Market; Fruit Markets, 298.  
THE GARDEN.—The Vegetable Garden, 300.  
THE SUGAR BEET.—The 1903-04 Beet Sugar Production of the United States, 301.  
THE VINEYARD.—Santa Cruz Mountains Vineyards, 301.  
PATRONS OF HUSBANDRY.—Tulare Grange, 302.  
MISCELLANEOUS.—New Patents, 302.

## The Week.

The interesting facts about the unusual length of the rainless term of 1903 which are being published in different parts of the State are becoming rather dry, in view of the other fact that heavy rains are falling over quite a large area as we go to press on Wednesday. However long it was it has gone by and the activity of the rainy season will begin forthwith. Probably there never was so many enterprises in the way of development and improvement as are now being pushed forward. We hear of them from all parts of the State, and particularly in the central and northern counties. The opportunities for profit in development where both land and water are abundant and relatively cheap are being appreciated as never before, and there will be a proportional amount of land brought under more intensive culture than that of the old time. The implement, seed and nursery and breeder's stock trades should all make record figures this year, and if any one in these lines does not get his share of the business it will be because he does not let people know what desirable things he has. Our advertising columns are beginning to show the life of the new season, and the announcements they contain are interesting and important.

The grain market is in sympathy with the weather—soft and sloppy. Spot wheat is nominally off 25c per ton, but nothing is doing; futures are lower owing to the rain and Chicago conditions. Barley is fairly steady on spot, with futures a little lower. Two cargoes of barley and two of mixed wheat and barley have gone out—the wheat worth \$30,000, the barley ten times as much. Other cereals are unchanged. Alfalfa seed is high. A carload of fine Utah seed is held at 16c. Beans are weak and slow and most kinds a little lower, but there is no trade on shipping account this week. Bran is in good supply, but in few hands, and, therefore, held up; other millfeeds are steady to firm. High grades of horse hay are firm; other grades and alfalfa hay are weak. Meats are unchanged. Fancy butter is firm and very little is coming; all other grades of butter are weak. Cheese is unchanged. Fresh eggs are lower and are, therefore, selling better. Poultry has had a hard week, but is recovering at the close. Potatoes are quiet and unchanged; more Oregons are arriving. Onions are unchanged. Choice apples are held up,

but poor grades are hard to get rid of at any price. Winter Nelis pears are selling fairly. Table grapes are improving; wine grapes are about gone. There has been a heavy movement of dried fruits, but mostly from earlier purchases. Shipments of a million pounds of dried fruits, including raisins, have been mostly to the continent of Europe, though some has gone to British Columbia and Australia. Dried apples and peaches are weak; prunes are steady; fine dried pears and pitted plums are scarce and firm. Raisins are quiet and outside lots selling under fixed prices. Almonds are steady and walnuts firm. Honey is quiet; 250 cases have gone to Boston. Hops have a firm tone and country buying continues. Shipments of wool include 111,000 pounds; there is no trade here and little in the country, as bids have been too low, and the wool shipped for holding here for the present.

Large overland shipments of grapes are still being made. The total shipments of fruit to Tuesday are 7214 carloads, as compared with 6923 carloads at even date last year. This year's shipments break the record, with many carloads yet to go.

We are glad to hear from the secretary, Mr. A. D. Hale, of Tangent, Ore., of the organization of a Red Polled Cattle Club, following the excellent display of this breed at this year's State Fair in our northern sister State. There is nothing like organization and co-operative effort in spreading the fame of a good breed of cattle, and the Red Pollers of the coast are wise in invoking such agency. We hope our California breeders will manifest their interest by joining with their northern neighbors. The name is the "Northern Red Polled Cattle Club," but this can cover the coast, we presume, until the herds in the different States warrant a broader name. There are some very good Red Polls in California, and there ought to be more of them. Mr. Hale writes that an association of all the breeders of the coast is desired by the Oregon people.

And now the Guernsey breeders claim the world's record for butter. Mr. W. H. Caldwell, Peterboro, New Hampshire, secretary of the American Guernsey Cattle Club, sends us a statement of the result of a year's test of the Guernsey cow, Imp. Charmante of the Gron 14442, Adv. R. 74, official record from Oct. 11, 1902, to Oct. 10, 1903, of 11,874.76 pounds of milk, containing 376.46 pounds of butter fat. This record was supervised in connection with the New Jersey Agricultural Experiment Station. Mr. Caldwell says: "Not only does the work of the year greatly exceed the requirements of the Register, but it is the best year's record of a cow of any breed in the world, where public supervision has been given same. It is equivalent to 789.2 pounds of butter, or an average of 2.16 pounds of butter a day." Readers will, of course, note the condition of "public supervision;" private records of other cows of other breeds are considerably ahead of these figures.

In the PACIFIC RURAL PRESS of September 26th there was a very important statement by Dr. A. R. Ward, the University veterinarian, about the occurrence of tuberculosis among the fowls in the Petaluma district. Since then there was an outbreak of chicken cholera in the district, which has been very speedily checked. The announcement was made from the University that the repressive sanitary measures employed by the poultry experiment station to control the disease have proved a forcible object lesson to the raisers not only of Sonoma and Marin counties, but of the entire State, and the station authorities predict that chicken cholera will never decimate a ranch again as it has so disastrously in the past. From a scientific point of view, the recent cholera outbreak has been invaluable to the students of chicken disease, not only in this State, but throughout the country. This epidemic will probably settle the question now being discussed by the pathologists of the United States as to whether the chicken "cholera," described by Pasteur, really exists in America. Dr. Ward has collected a number of cultures, and will make a careful bacteriological study of them, in the hope of throwing light upon this mooted point. Hitherto it has been almost impossible for the pathologists of this country to obtain material for studying the disease microscopically. No doubt a publication of details most important from a practical point of view will ere long be made.

## QUERIES AND REPLIES.

### Roselle and Root Knot.

TO THE EDITOR:—Can you give me any information about Roselle plants? I got some seed in Los Angeles and have thirty plants 3 feet high. Will frost kill them? The place I have recently bought has five to eight-year-old plum and apricot trees on it, and several have the root knot, both on the root and crown. Will it go to all the trees? I wish to plant some young trees next spring. Will the root knot go from the old trees to them? I have also several trees which have the gum disease. Should I send sample of soil for analysis?—READER, Pasadena.

The Roselle plant is very subject to frost and will pass out of sight at the touch of a frost which might not seriously injure other plants. You might by covering carry the plants through the very light frosts which you have, but it is usual to count merely upon the summer growth a fruiting of Roselle, and to start it anew in the spring of each year.

The root knot has been demonstrated to be communicable from one tree to another, providing a piece of the knot is carried by the cultivator or otherwise so as to get into contact with the root crown of a new tree. However, it will hardly be desirable because of this to destroy the old trees if they are fairly productive, nor to refrain from planting new ones. By watching the young trees, examining the root crown say twice a year and removing any little knots that appear and touching the wound with a solution of bluestone, you can prevent the occurrence of the trouble, or at least prevent it from checking the growth of your new trees.

Gum disease, so-called, is not a disease, but is an indication that the roots of the tree are in distress. This may be due to drouth, accompanied by the high heat in a dry soil, or it may be due to an excess of water, saturating the soil and preventing healthy root growth. An analysis of the soil is not necessary. The health of the tree depends more upon the regulation of the moisture supply.

### Resistant Vines—Disinfection—Late Growth of Vines.

TO THE EDITOR:—Has it been demonstrated that vines grafted on resistant roots grow as fast and bear as well as when grown on their own roots? I read recently of some that were ten years old and no larger than others beside them grown on their own roots only three years old? Would you advise grafting Zinfandels on Rupestris St. George?

What is used to fumigate cuttings for destroying phyloxera? I read in your book that grafting is sometimes done late in the summer, when the sap stops flowing, from August 1st to 10th. If the sap stops flowing then, how do the vines continue growing till October or later?—IGNORANCE, Lathrop.

It certainly has not been demonstrated that all vines grafted on all resistant stocks will grow and bear better, or even as well, as on their own roots. In fact, the reverse has been fully demonstrated. If the resistant root likes the soil, and if the scion likes the resistant root, it may grow as good a vine, or it may even grow a better one, if the scion is of a variety which is naturally a weak grower. If the scion is of a strong-growing variety, probably no resistant stock can improve its growth, and most resistant stocks may reduce it. If the resistant roots were only concerned in securing strong growth, we could do better without the whole parcel of them. But the element of resistance to phyloxera is the main issue, and the strongest-growing root for each soil and the best for each variety which takes well to its support—these are the things which are sought and which are still a long way from demonstration. No doubt what you hear about some ten-year-old vines on resistant roots being no larger than three-year-old vines on their own roots is true, or may easily be true. It simply means that the resistant roots used in that case were displeased with the soil conditions, or the scions, which were grafted in, were displeased with their hosts. Of course, you should be careful not to make such a combination. As for Zinfandel or Rupestris St. George, it has done well in places where this root succeeds.

### Unsatisfactory Raisins.

TO THE EDITOR:—I send a cluster of Muscat raisins and would be pleased to have you explain why they dry in that peculiar manner. Those that do not bloat dry very dark. The vineyard is four years old and bore a heavy crop except in three narrow strips running through it, where the fruit was like the sample. These vines also look puny and drop their leaves



earlier than the others. All received a thorough irrigation in June and good cultivation all summer. Some tell me it is caused by alkali, but I have seen no signs of alkali in these spots. Would fertilizing the weak vines prevent it? A Thompson vineyard adjoining, through which the same streaks run, shows no "bloaters."—GROWER, Dinuba.

The raisins have been carefully examined. The immediate reason why the fruit dries in this way is the fact that the vines were not able to mature it properly. Why the vines fail to do this, however, is a difficult question, and perhaps must be studied in connection with a better knowledge of the vine and the soil in which it is growing. These things it is impossible to tell from the specimens of the fruit. Such fruit would result from anything which would cause the vine to be weak; either some disease of the root or the presence of alkali, or the lack of sufficient moisture will cause this; for instance, if there happened to be a streak of gravel which allowed these vines to dry out too early in the season, some such results would follow. If this is the case a later irrigation would help these vines to continue their work, and this should be tried before resort is had to fertilizers, because in the absence of adequate moisture they would avail nothing. If the vines do not respond to water the subsoil should be tested for alkali, which on a light soil may not crop out noticeably on the surface.

The Dieback of Prunes.

To THE EDITOR:—In ten acres of French and Robe de Sergeant prunes on Myrobolan I notice a number of affected trees. This past summer a few died back to the crown, and I find a new growth of the budded stock almost immediately coming from the crown. The disease attacks the trees at almost any time from early spring to the late fall, a great quantity of gum exuding in different parts of the trunk, sometimes only one limb dying down; the following season will generally see balance of tree dieback. I have cut out carefully affected parts, but cannot say that this checks it. Bordeaux mixture applied seems to be of no avail. I have looked for borers, but without success. If from this brief description you can tell me any remedy I will be very thankful.—GROWER, Marysville.

The dieback of your prune trees on Myrobolan root is due to unhospitable conditions in the soil. Either the soil has been allowed to dry to such an extent that the root fibers fail or the same result was caused by over saturation by standing water. Either one of these bad conditions will cause dieback as you have described it. Gumming also comes from the same conditons of the soil. You have apparently done everything you can by cutting out the dead parts and by the use of Bordeaux, and the probability is that you will not succeed if the soil is too dry or too wet or there happens to be too much alkali present. In the foothills there is loss of prune trees which result from a degree of heat which does not suit the tree, and this is also encountered sometimes on the valley plains.

Fruit Scions for Mexico.

To THE EDITOR:—I wish to graft some trees, and write to ask the proper season of the year (in California) to get cuttings, and the best way to put them up and pack them for their long journey. It will take not less than one week for them to make the trip, and altogether ten days from time of cutting to time of setting the grafts. The varieties I want to get are the apple, pear, peach and apricot.—READER, City of Mexico.

You should secure cuttings from this State soon after the first of December. You can get them from nurserymen advertising in our columns. They will send you the dormant scions packed in moss so that they will arrive in good condition, although they may be months on the way. They will not start in growth unless they are kept in too warm a place. When you receive them put them in moist, but not too wet, sand and keep in a cool place until the buds begin to swell on trees which you wish to graft, then graft in the scions at once and you are almost sure to succeed.

Comparative Values of Animal Manures.

To THE EDITOR:—What is the relative value of fresh horse manure, from a stable, compared with dry sheep manure, from an old sheep corral, ton for ton? We wish to use it in a vineyard on white ash land.—READER, Fresno.

According to the average of a great many analyses, fresh horse manure is worth about \$2.50 a ton; according to analyses of dry sheep manure from the old corrals in Fresno county, it is sometimes found

to be worth \$14.00 per ton. Even if we take it as worth \$10.00 per ton on the average, it can be counted as having four times the value of fresh horse manure. Our own impression is that it would often be nearly five times as valuable.

Oil Burning for Dodder.

To THE EDITOR:—I wrote you some time ago concerning the eradication of dodder. Your method of burning, viz., cutting the infected spot, adding considerable straw and then burning, can be simplified to a considerable degree, it being only necessary to sprinkle lightly with coal oil, then fire the spot. Coal oil is very cheap and the effect very good. The dodder has been destroyed and the alfalfa is growing finely, the roots not having been injured at all. The treatment is so simple, cheap and easy of execution.—CORRESPONDENT, Ceres.

We are glad to know of the success of this method. It may not, however, be cheapest in all cases nor the most effective. It needs a spray pump or garden syringe to apply the oil if you have much dodder to treat, and if you spray only the standing plants with their burden of dodder you are apt not to bring heat enough to bear upon the dodder seeds which have already fallen and lie on the ground surface. Cutting and then spraying with oil would be more likely to do this. A straw fire is usually the cheapest thing one can make on a ranch and the straw is most easily handled. You have succeeded in burning up the old dodder plant, but you may find many new ones in the same place next spring. It is generally better to make a hotter fire even if you kill the alfalfa roots and have to reseed the spot.

Curing Hams and Bacon.

To THE EDITOR:—Will you kindly inform me of the proper way to salt pork, and how to make or smoke hams and bacon?—SUBSCRIBER.

To THE EDITOR:—What is the best and safest way to cure ham and bacon without the aid of smoke?—READER, Healdsburg.

The best way to get the information desired by the first querist is to order from this office a very satisfactory little book entitled, "Home Pork Making," by A. W. Fulton. It is full of accurate details and helpful illustrations about handling all products of the pig. It will be sent postpaid for 50 cents. As for curing hams and bacon without smoke, we do not know anything about it. If it were feasible, no doubt the great commercial establishments would have closed their smoke houses long ago. If we remember aright, the use of creosote or the "oil of smoke" was suggested long ago, and the product tasted about as well as a wad of cotton from the dentist's.

Trapping the Canker Worm Moth.

To THE EDITOR:—Can you explain to me in detail how to put wire traps on trees for canker worm—what size wire cloth to use, also at what time of the year to put on. My neighbors used the traps last year and had as many worms as ever. I am afraid some important detail was overlooked.—G. S., San Jose.

The efficiency of the wire cloth for the canker worm depends in the main upon two things—the careful adjustment of the wire cloth, so the wingless moth cannot crawl up under it, and the regular killing of the moths which may be entrapped, else they will lay eggs, and the worms will crawl up when they hatch out. The way to do it is to smooth off the rough bark, draw a strip of cloth around and then draw the upper edge of the wire screen tightly, so it will press closely upon the cloth and leave the lower edge of the piece of screen flaring or away from the bark. Strips of No. 14 wire cloth, 6 inches wide and of length to overlap, are required. They may be fastened at the upper edge by tacks or a wire may be tightly drawn around. The traps should be cleaned of their catch about once a week during the time that the moths are moving most abundantly and examined at intervals all winter. They should be in place before December.

The Santa Cruz Mountains.

To THE EDITOR:—Kindly answer the following questions: What is the average annual rainfall for the hill lands of Santa Cruz county? Are the soil and climate of the hill lands of that county suitable for choice apple raising? How would cattle raising do on those ranges? Is it true that much of the hill lands of that county are covered with black, sandy soil?—READER, Port Costa.

It is impossible to give you any general remarks

about the Santa Cruz mountains which would apply to all parts of them. These mountains are made up of steep slopes, or high flats, or moist lands in the inter-vaies and of exceedingly dry sandy ridges in parts. The rainfall varies from 30 to 70 inches in different situations, and, with all this water, there are still many slopes which would be benefited by irrigation. You will see, then, that in order to form any accurate conclusion as to the suitability of any piece of land in those mountains you must know how it is situated. There are many excellent apple orchards on deep retentive soils lying rather flat, so that the water does not all run away from them, and there are ridges and slopes where apples and other fruits do not attain proper size because they dry out in the middle of the summer. There are large areas which are suitable for cattle raising. It is not true that the hilly lands of the country are covered with black, sandy soil, but there are some places where this is true. The only way you can arrive at a satisfactory conclusion is to visit the mountains and make personal investigation of the lands which you contemplate using for any particular purpose.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 2, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

The weather continued warm and clear most of the week, with occasional fogs in some sections. Heavy grape shipments are being made from Sacramento and other points. Raisin drying is progressing rapidly. All other deciduous fruits except apples are harvested and disposed of. Nearly all fruits have yielded excellent crops. Oranges are ripening rapidly, and shipments from the Oroville district will begin within a week; the oranges are of good quality and the yield will be large. Grain, hay, beans and hops are all under shelter. Pasturage is scarce and rain is needed to start grass. Most farmers are waiting for rain before plowing and seeding.

Coast and Bay Sections.

Generally fair weather prevailed during the week, with fogs along the coast. The temperature was somewhat lower than during the preceding week. With the exception of apples and late grapes, the fruit crop is harvested and under cover. The yield of grapes and deciduous fruits has been very satisfactory in most places. Tomatoes are ripening and will make a good crop. The summer crops are harvested and under shelter; grain, hops, beans and sugar beets have yielded fairly well in most sections. Plowing and seeding are in progress. Feed is scarce, but cattle are in fair condition.

San Joaquin Valley.

The weather during the week was generally clear and warm, with cool nights, and conditions were very favorable for late fruits and raisin curing. The second crop of raisins is nearly disposed of, and a small third crop is on the trays in the Fresno district. Dried prunes and raisins are going to the packing houses in large quantities, and late grapes are being sent to wineries and shippers. Oranges are ripening rapidly; the first carload was shipped from Porterville October 29, and picking will become general during the present week. Olives are in excellent condition, and prospects are good for a fair crop. Egyptian corn harvest is progressing. Cattle have been turned on alfalfa fields in some places and are doing well. Plowing and seeding continue.

Southern California.

Warm, clear days and cool nights, with heavy fogs along the coast, prevailed during the week. Conditions were somewhat unfavorable for raisin making, but most of the crop has been cured and is being sent to packing houses. Carload shipments of raisins are being made from San Diego. The apple crop is being harvested and shipped. Walnut picking is nearly completed; the crop is light. Oranges are coloring, and prospects are good for an unusually heavy crop. Celery is ripening and going to market. Beans and sugar beets are all harvested. Plowing has commenced in some places.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 3, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rain-fall to Date.	Total Seasonal Rain-fall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Temperature for the week.	
					Maximum.	Minimum.
Eureka.....	1.68	4.84	3.37	5.74	68	48
Red Bluff.....	.68	1.12	3.48	2.33	78	46
Sacramento.....	.00	.14	1.67	1.67	80	46
San Francisco.....	.14	.31	1.70	1.93	70	52
Fresno.....	.00	.00	.42	1.03	86	44
Independence.....	.00	T	.39	.60	74	42
San Luis Obispo.....	.00	.02	2.00	2.34	82	44
Los Angeles.....	.00	.43	.39	1.00	80	46
San Diego.....	.00	.06	.98	.64	72	52
Yuma.....	.00	.31	.11	.97	92	50



## AGRICULTURAL SCIENCE.

### Simon Simple Answers Questions on Fertilizers.

Written for the PACIFIC RURAL PRESS by B. and R.

#### WHICH IS BETTER VALUE?

TO THE EDITOR:—It would oblige us greatly to have an authoritative opinion upon the following practical question, which very closely touches our pockets; that is, which of the following is better to buy:

No. 1.	No. 2.
Orange tree fertilizer at \$36 a ton from animal matter:	Orange tree fertilizer at \$38 a ton from mineral matter:
Nitrogen (as ammonia) . . . . . 4%	Nitrogen (as ammonia) . . . . . 5%
Phosphoric acid (available) . . . . . 8%	Phosphoric acid (available) . . . . . 10%
Sulphate of potash . . . . . 4%	Sulphate of potash . . . . . 6%
Total . . . . . 16%	Total . . . . . 21%

The manufacturer of fertilizer "No. 1" is a meat packing house who annually work up their "tankage" into fertilizer and claim very strongly that animal fertilizer is by far the best. On the contrary, the manufacturers of "No. 2" fertilizer insist that mineral fertilizer is the best, their claim being:

"The meat packing company's fertilizer, though rich in plant food, is not as high grade as the mineral plant food which we purchase outside. Of course we cannot blame the meat packing concern for trying to sell this stuff, which costs more and does not give as good results. Animal matter has never yet produced high-class, smooth, sweet, shipping oranges, and animal fertilizer cannot for a moment be compared with mineral fertilizer. They are an entirely different class of goods. Tankage—that is, blood and bone finely ground, with potash added—only furnishes one source of nitrogen, and personal experience shows that it does not give the best commercial results. A pound of nitrogen derived from sulphate of ammonia would be worth 18½ cents per pound, whereas a pound of nitrogen derived from hoof meal would be worth from 2 to 3 cents per pound. Therefore, though the two fertilizers might analyze alike, they would be of very different value."

When doctors disagree in this fashion, what is a poor layman to do? Can you throw any light on the question?—READER, San Francisco.

Neither fertilizer No. 1 nor fertilizer No. 2 are worth their cost. The No. 2 is certainly better value than the No. 1, but neither is worth a consideration. In calculating the real value of these manures we have taken the following values for the various plant foods: Nitrogen, 15 cents; potash, 6 cents; phosphoric acid (available), 6.5 cents. This gives us as the value of the No. 1 fertilizer \$22.67, or \$13.33 less than cost, and for the No. 2 fertilizer \$28.96, or \$9.04 less than cost. But were the values of the plant foods higher than quoted, these manures would still be very onerous on account of the large proportion of inert material they contain, if for no other reason. We also would strongly object to the method pursued by the manufacturers in presenting their analysis to the public. To say the least, they are ambiguous.

Ammonia is not of itself directly a plant food, but is of value only in so much as it contains nitrogen. Therefore, the percentage of nitrogen and not of ammonia should have been given.

The term sulphate of potash is extremely vague. There are many qualities of sulphates of potassium. Are we to conclude that the companies have used the best, or only some inferior kind? Also, the potash is the only element of value, and therefore its percentage, and not that of its salt or compound, should be given. In our valuations of the fertilizers, we assumed that the sulphate of potash contained 50% potash, which is about the amount a good commercial sulphate contains.

As to the argument that organic manures are inferior to the mineral, it is far from true. To develop this question is beyond the scope of a simple answer to a query, and a very broad generalization must suffice. In soils well stocked with organic matter, the mineral manures are found to be more effective than the organic; but in soils poor in organic material, but fairly stocked with phosphoric acid and potash, the converse is generally true. Organic manures as sources of nitrogen, and mineral manures as sources of phosphoric acid and potash, form a very rational means of fertilization for soils not rich in humus. A short pamphlet on the "Fertilization of Orange Trees," issued by the Propaganda for Nitrate of Soda, and which may be obtained free, if we are not mistaken, by applying to T. A. Myers, 12 John street, New York City, is quite worthy of a perusal and some consideration.

#### THOMAS SLAG ON GRANITIC SOILS.

TO THE EDITOR:—Will Simon Simple please tell us why Thomas slag should be used on granitic soils—a soil often deficient in moisture except in low ground. Also please explain the "danger" in mixing superphosphate with slag or bone meal; slag and ammonia salts.—SUBSCRIBER, Loomis.

Thomas slag contains, besides phosphoric acid, about 40% of free lime, whereas the sulphates and bone meal do not contain any. Now, granitic soils, as a rule, are deficient in lime, and their constitution is, therefore, improved by its addition.

The moisture content of a soil is not affected by the application of Thomas slag or any other mineral manure. To improve the moisture-holding capacity of soils, organic manures should be applied solely, or in conjunction with the mineral. The best organic manures for this purpose are cow dung, rotted until it assumes the state known as "black butter," and the leguminous plants, clovers, vetches, lupins. The half-rotted, semi-dry barnyard manures, which the Californians too often apply, do not improve the mois-

ture-holding capacity of soils, and cannot be recommended for that purpose [until it decays in the soil.—Eds.]

The mixing of superphosphates and slag is to be avoided for the following reason: Phosphate of lime may exist in three different forms, corresponding to three distinct phosphates. In one we have eighty-two parts phosphoric acid to eighteen of lime; in another seventy parts phosphoric acid and thirty parts lime, and in the third sixty-one parts phosphoric acid and thirty-nine parts of lime. The first phosphate of lime (primary phosphate) is soluble in water; the second (secondary phosphate), soluble in water containing carbonic acid; and the last (tertiary phosphate) only slowly soluble in soil water, and not at all in pure water. The first two phosphates of lime are not stable, and in the presence of lime revert to the tertiary or stable phosphate. The superphosphates are composed of the primary and secondary phosphates; Thomas slag and bone meal of the tertiary. Therefore, if you mix a superphosphate with the slag, the free lime will cause the primary and secondary phosphates to revert to the tertiary or stable form, which is to be avoided.

Slag and ammonia salts cannot be mixed together because the slag contains free lime, as already mentioned, and the acid of the ammonia salt would combine with it, and thus set the ammonia free; and ammonia, being, as you know, a gas, volatilizes and is lost.

Berkeley, Oct. 28.

## THE DAIRY.

### Pasteurization as Applied to Creamery Work.

By PROFESSOR E. W. MAJOR of the University of California at the recent Creamery Operators' Convention.

The process of pasteurization was first used by Pasteur (from whom it derives its name) in fighting the maladies of beer and wine. Its importance in butter making was not generally recognized until a few years ago. The Danes were the first to put it into practical use.

THE DANISH METHOD.—About fifteen years ago Professor Storch of Copenhagen conceived the idea of furnishing to the butter makers those species of bacteria which produce the best results in cream ripening. Two methods were adopted in the use of these starters. The first was to build the starter up and then add a large percentage of cream. The result was that the lactic acid bacteria, of which the starter consisted, were so much in the majority that they developed rapidly and prevented the growth of the other bacteria present. It was soon found, however, that frequently undesirable bacteria sometimes developed in sufficient numbers to give objectionable flavor to the butter. The second method was then adopted, the use of pasteurized cream. At present the Danes are using this method exclusively, and it is no doubt largely due to this that their butter holds the high position it does. In this method the cream is first heated to a temperature of from 160° to 180°, and this degree of heat is sufficient to kill off practically all of the known spore bearing bacteria. And to kill or inhibit most of the spore bearing kinds, in careful experiments, it has been found that from 90% to 95% of the bacteria present are destroyed.

METHODS.—When the work was first undertaken some difficulty was found, owing to the cooked flavor of the cream, and experiments in this country showed that this undesirable quality could be prevented by not heating the milk to a temperature of 155°. The lower the temperature to which the cream is heated, the longer it must be held at that temperature. From fifteen to twenty minutes is generally sufficient to kill off most of the bacteria present, although it may not be sufficient to kill off all germs of tuberculosis, if present.

In the first few years of its use, most of the work was done with intermittent machines. That is, machines in which a certain amount of cream was placed and then heated to the desired temperature; held there for quite a time, and the cream afterwards cooled, either in the same machine or else turned off into cans and placed into ice water. The difficulty in this was, that the machine had to be very large if it contained all the cream churned in the creamery, and the amount of labor and ice required to cool off the cream was very great.

Continuous pasteurizers were soon developed. The first machines put out were generally objected to by bacteriologists on account of their not doing the work thoroughly; that is, the cream was not subjected to the temperature for a sufficient length of time. However, we have to-day several continuous machines on the market that overcome this difficulty and do most satisfactory work.

When pasteurization was introduced into creameries, some butter makers followed the method of pasteurizing the whole milk as received. The difficulty found in this was that few separators would take milk at that high temperature. Some makes of machines

will, but the bearings of most of the machines now used in our creameries will become overheated if milk is run through at a temperature of 150° to 160°. The good found in this method was, that the skim milk was pasteurized at the same time as the cream, and therefore returned to the farmer in better shape. This system, however, has practically fallen into disuse and cream and milk are pasteurized separately.

IN THE CREAMERY.—Now as to the value of pasteurization in creamery work. As I have said before, the Danes, who supplied the larger amount of butter to the European markets, have adopted this method in all of their dairies. We must, however, recognize the fact that the European markets demand a milder flavor in butter than does the American market. In most of the Eastern markets a clean flavor is in demand, and where the butter is sold soon after making, there has been some difficulty in securing this high flavor from pasteurized cream. There is, though, every indication of a change in the demand. People are beginning to realize that a clean, mild flavor that will hold for several weeks is much to be preferred to a flavor that goes off in the course of a week or ten days. The growing business in export butter provides an outlet for pasteurized goods. The departments at Washington (Army and Navy) are insisting on having all their butter made from pasteurized cream. They have found that where the butter is shipped to tropical countries, or where it is held on board ship for a considerable length of time, the pasteurized creamery butter retains its clean flavor for a much longer period than does the butter from raw cream.

WHAT PASTEURIZATION WILL DO.—The Iowa Experiment Station has recently concluded a series of experiments, comparing pasteurized cream butter and unpasteurized and noting its keeping qualities. They found that while the butter from the raw cream generally scored slightly higher on flavor immediately after making, it soon lost this high flavor and by the end of the first week pasteurized cream butter scored from a point to a point and a half higher. At the end of the fourth week pasteurized cream butter was about three points higher, and at the end of the eighth week, about ten points higher.

Where butter is shipped to a commission house and sold through the retail dealer, it is probably over four weeks before it reaches the consumer. We see, therefore, the advantage of pasteurization in securing a clean flavor in the butter at the time the consumer purchases it.

It is urged by some that pasteurization will not remove the objectionable weedy flavor. Others, however, who have used it in districts in which wild onion or other objectionable weeds are present, report that by heating the cream slowly to the desired temperature, and then by constant stirring, most of these foreign flavors and odors have ample time to escape and it is possible to overcome a good deal of those defects.

FOR GATHERED CREAM.—In those sections where the hand separator has become common, and where most of the creameries are operated upon the gathered cream system, the point of value in pasteurization is important. Up to the present time not very much work has been done along this line in American creameries, and in some cases it has not proven to be very satisfactory. The difficulty is that when the cream is sour and then pasteurized, the casein is somewhat coagulated and causes white specks in the butter. In experiments conducted in Canada they found that they secured quite satisfactory results when the cream was rich, as in that case there was much less danger from the casein coagulating. In his report of these experiments, Professor Smith says that by pasteurizing the gathered cream an improvement of at least 1 cent per pound was obtained. The item of cost is quite an important one. The labor involved is not, with the modern machines, very great, except that where pasteurization is followed, the making of starters from commercial cultures must be adopted. This gives the butter maker considerable work, but if he would have his butter of the highest quality it is necessary for him to use commercial starters whether pasteurizing or not.

Some work has been done looking to the securing of data showing the cost of pasteurization. The results secured give about 1-10% of a cent per pound of butter produced; if, as in the case of Professor Smith's experiments, the butter was worth at least 1 cent per pound more, there was no question as to the economy of the method.

AS APPLIED TO WATER.—It is not alone, however, in the treatment of the cream that pasteurization has been adopted. Some years ago Mr. Monrad, in one of his pamphlets, called attention to the danger of developing a bad flavor in butter from the use of impure water. He suggested the idea of either pasteurizing or else filtering the water carefully before using. Since then, Professor McKay of the Iowa Station has carried on some experiments looking to the influence of water upon the flavor of butter. He took cream and divided it into three lots, and as far as the ripening and churning were concerned the lots were handled in the same way; the only difference was in the matter of water. In one lot he used water from the well, in the second, pasteurized water and in the third filtered water. His conclusions are that butter washed in pasteurized water would keep



normal much longer than if washed in unpasteurized water. The expense of pasteurizing would amount to about 1-100 of a cent a pound of butter.

**THE SKIM MILK.**—Another place where pasteurization has been used successfully is in the pasteurization of skim milk before returning it to the farmer. The Danes again were the first to adopt this. They had great trouble from tuberculosis in their cattle and the authorities were eager to stamp out this disease. Now one farmer might have a perfectly clean herd, but if he took his milk to a creamery to be mixed with milk from other herds the skim milk returned to his farm would be contaminated by the milk from other herds. The authorities, therefore, passed a law compelling all buttermakers to heat the milk to 180° before returning it to the farmer. This law has been adopted in at least one State (Minnesota) where, at the last legislature, a bill was enacted similar in treatment to the Danish law. The cost to the creamery is small, as skim milk can be heated by exhaust steam. At first it was thought that some trouble might arise by returning the skim milk when hot, but butter makers report no unsatisfactory results. In fact, they say that it is easier to keep the cans clean since pasteurization was adopted.

It is a question in my mind whether it is at present profitable to put pasteurizers in the small creameries handling milk from a few herds only and the butter disposed of at local markets. I do believe, however, that it would pay well to adopt the method in most of our large creameries.

## THE POULTRY YARD.

### Hints on California Houses and Yards.

TO THE EDITOR:—As a rule, Californians depend so much upon the mildness of the climate that proper housing of poultry is sadly neglected. In the fall, when the temperature during the day ranges from 85° to 90° and falls to 50° or below at night, chickens require a warm roosting place free from draughts, for a slight crack where the wind blows through is much worse than roosting in trees. This is the first cause of roup, which, it cannot be denied, is extremely prevalent in this State, and is one reason for a shortage of eggs.

Another thing to be remembered in building a poultry house is, especially in the Sacramento valley, that it should not open to the south, but rather to the north, with windows in the south to let in light and sun, so that in rainy weather the fowls can have a comfortable place in which to stay out of the rain, for most all rains come from the southeast.

Yarded fowls lay more eggs than those on free range, and the yards should extend from the house north in California, not south, as Eastern poultry papers advocate, for it must be remembered they are writing of conditions prevailing in their climate which are entirely different from those maintaining here. Besides, when yards are extended north, the house is a great protection from the summer sun and its shadow affords some shade, where trees are too young or there are none.

W. K. HAYS.

Henleyville.

### Egg Laying Contest.

The Petaluma Incubator Co., says a local journal, has received some returns from the egg laying contest which is at present going on in Sydney, Australia. It will be remembered that crates of American hens from all over the United States were sent by the company to compete with the Australian fowl in the matter of egg laying. The returns for April, May, June, July and August show America ahead with the R. C. B. L. breed, having a total of 587. The number approaching nearest is 561, the S. Wya. of Australia. Australia has far more varieties of fowls entered than has America. There are but three Americans entered in the contest, and the one whose birds are in advance after the five months is a woman, Mrs. A. H. Hansel.

### A New Establishment Below San Jose.

Opposite the San Martin station, says the San Jose Mercury, is a collection of neatly painted buildings, surrounded by yards in perfect order, fenced off by shining white fences. These structures are on the 6000-acre Rancho de las Llagas, the property of L. Lion of San Jose. For several miles along the railroad it extends and in long rows with unerring straightness the prune, peach, pear and apricot trees run as far as the eye can reach. Fruit, hay and grain in immense quantities have been produced here, but a new feature will be introduced—that of raising poultry and eggs on a large scale. In fact, a beginning has been made, and incubators are hatching out 2100 chicks every month. There are in the yards 2500 chickens of the white Leghorn stock. The poultry will occupy a plot of ground sixty acres in extent. The chicken houses are all movable, being placed on

sleds, and are never allowed to remain in one place more than a week, thus providing for the cleanliness so desirable and necessary on a successful poultry farm. The incubators are placed under the ground, and this method has been found to be unusually successful.

Mr. Lion's ranch is admirably adapted for the poultry business. The Llagas creek flows through the place, grasses grow upon the up-lands, and the immense quantity of grain grown provides all the food necessary for myriads of chickens. Besides hens, ducks, geese and turkeys in large number are raised. The place is especially well adapted for the raising of ducks, and this feature has proved very profitable.

## FORESTRY.

### Eucalyptus at Home in the Philippines.

Mr. Robert E. C. Stearns, formerly secretary of the University of California, and now a resident of Los Angeles, is a pioneer authority on the eucalypts in this State and closely connected with the early distribution of the trees. He has always maintained his interest in the genus and recently contributed to Science an interesting note concerning its occurrence as a native of the Philippines. He writes: The eucalypts, of which but comparatively few species are familiarly known outside of their native home, include some 150 species or more, nearly all restricted to Australia and Tasmania. Many of the forms may be classed as shrubs, others attain great size, surpassing in height, as has been stated on good authority, the giant Sequoias of California, though not equaling them in diameter or girth. A few species have been found elsewhere, viz., in New Britain, New Guinea and Timor, islands north of the Australian continent, between latitude 10° S. and the equator. It is not unlikely that sooner or later other species, at present unknown, will be detected on some of the multitude of islands, large and small, that occur between latitude 10° S. and 20° N., and longitude 90° to 170° E. From New Britain, in the Bismarck archipelago, midway between latitude 10° S. and the equator, to Mindanao, the most southern of the Philippines, between latitude 5° and 10° N., situated to the northwest of New Britain, is quite a leap, as will be perceived by a moment's thought. The occurrence of eucalypts in the Philippine islands above named has recently been verified by Mr. Maiden, the director of the Botanic Gardens, Sydney, N. S. W., who has examined the specimen collected by William Rich, the botanist of the U. S. ship Relief of the famous Wilkes Exploring Expedition, who collected the plant or example near Caldero, Mindanao, some time between 1838 and 1842, and named it *E. multiflora*; it proves, however, to be identical with *E. naudiniana* F. v. Muller. Rich's name being preoccupied explains the change of name. *E. naudiniana* occurs in New Pommern (New Britain) "and is so common in the forests that two sawmills have been started especially for the timber, which is not as hard as the Australian eucalyptus, but still good, useful timber." As Mr. Maiden says: "There are so few eucalypts found outside of Australia that the question of the identity of one found beyond the limits of that continent is of interest, and the occurrence of the genus in the Philippines is now set at rest, and doubtless its range in that group will be ascertained by American botanists."

## HORTICULTURE.

### Canadian Law Relative to Imports of Nursery Stock.

By U. S. COMMERCIAL AGENT JOHNSON, Stanbridge, Canada.

For the information and guidance of our nurserymen, as well as exporters of nursery stock, I report the recent passage of laws by the Dominion parliament prohibiting the importation into Canada of any trees, shrubs, plants, vines, grafts, cuttings or buds, commonly called nursery stock, liable to infection by the San Jose scale, except at the customs ports of St. John, New Brunswick; St. John's, Quebec; Niagara Falls and Windsor, Ontario; Winnipeg, Manitoba; and Vancouver, British Columbia. Such importations are permitted at the above-named customs ports between March 15 and May 15 and between October 7 and December 7, except at Vancouver, British Columbia, where importations are permitted only during the winter months, from October 15 to March 15. Such shipments will be fumigated by a government official at the risk of the shippers or consignees. This restriction does not prohibit the importation of roses, greenhouse plants, or flowers which have been grown entirely under glass, but such shipments must be accompanied by a certificate stating that they were grown under glass, otherwise they will not be permitted to enter the Dominion of Canada.

The plants exempted are as follows: (a) Greenhouse plants, such as palms, ferns, orchids, cacti, chrysanthemums, azaleas, begonias, and carnations;

(b) herbaceous perennials the tops of which die down in winter, such as perennial phlox, dielytra, peonies, perennial sunflowers, etc.; (c) herbaceous bedding plants, such as geraniums, coleuses, verbenas, pansies, etc.; (d) all conifers; (e) bulbs and tubers, such as lilies, hyacinths, narcissi, and all other true bulbs, gladioli, caladium, irises, cannas, dahlias, etc.; (f) roses in leaf and in a growing condition, which have been propagated under glass.

## THE FIELD.

### The Hemp Crop at Gridley.

Talking with George Thresher of Gridley, a writer for the Marysville Appeal gathered a few facts about hemp and the manner of cutting and curing it. Hemp is grown quite extensively on the sandy bottom lands along the Feather river in the vicinity of Central House and near Gridley.

It is ready for cutting in September, but the work is slow, as only about four acres a day can be cut. The stalks run from the size of a man's finger to the size of his wrist. It takes a very strong and powerful mowing machine to stand this work, and the number of sections broken in the sickles keeps a man busy putting them in again. These stalks when cut lie on the ground until, if possible, a couple of inches of rain has fallen on them. Then they are stacked up and allowed to get dry, when they are hauled to the mill.

The load of hemp straw runs from seven to eight tons to the acre, so there is considerable hauling to be done.

John Heany, the pioneer hemp grower of this county, has now about 300 acres of hemp, and which is being cut at the present time. It keeps about five or six men busy at the mill all of the time, and from six to twelve in the fields.

There is one very peculiar thing about working hemp in the mill. If there is too much moisture in the air the fiber will not separate from the woody part of the stalk. The mill, therefore, cannot be run when there is much dampness or during rainy weather. If the rains come on and keep up during the winter the mill has to be closed until spring, when the machines that test the humidity of the air tell the millman that he can now begin his work.

The cutting, hauling, stacking, etc., can be carried on even during the rain, but the mill has to be closed. The various kinds of work connected with growing hemp stretch during the year so that the men are never idle, but can work right along the whole season.

In the East, where the hemp is grown, the milling cannot be done in the summer on account of the rains. There they have to wait until the cold weather comes on and removes the moisture from the air.

We are told that Mr. Heany pays \$10 an acre rent for his land for hemp growing, which is a pretty big rent for any kind of crop, as this must be clear above every other expense.

It is often claimed that the growing of hemp injures the land, but on the Biggs land, near Gridley, hemp has been grown for the past five years and the last crop was bigger than the first. The land is fertilized with niter when any fertilizer is needed.

## FRUIT MARKETING.

### What Cubans Expect in the United States.

Translated in the Bureau of Statistics from El Economista Mexicano of Sept. 19, 1903.

Our trade in fruits with the United States may one day attain proportions much greater than those of to-day. Cuba, favored by shortness of distance and exquisite quality of its products, occupies a favorite place among the countries exporting tropical fruits—an industry offering a new and endless source of riches. Not long ago the industrial situation in Jamaica was sufficiently critical to cause a fall in its sugar trade and in the banana trade. It owes its prosperity in great part to the encouragement of the trade in fruits, which constituted 50% of its exports, sugar never going beyond 10%.

Consumption of fruits has developed in such an extraordinary manner in the United States that during the fiscal year ended June 30, 1902, the value of fruit importations of the United States amounted to \$21,500,000, while thirty years previous to that time importations amounted to \$13,000,000. In 1870 only \$7,000,000 were imported. The imports of bananas alone into the United States in 1902 amounted to \$7,300,000, drawn from the following sources: British West Indies, \$3,400,000; Costa Rica, \$1,500,000; Honduras, \$700,000; Colombia, \$560,000; and only \$530,000 from Cuba, against \$1,500,000 in 1892. The value of the lemons, sweet and sour, imported into the United States from Italy amounts



to more than \$3,000,000. Of the oranges imported—\$400,000 worth—the preference is given those from the British West Indies. Of coconuts the United States imported from the British West Indies, \$325,000; Colombia, \$483,000; Cuba, \$175,000; total, \$832,000.

With these figures before our eyes we can feel assured that the United States will consume our production of fruits in much larger quantities than we can supply them. And if Italy, from the other side of the ocean, can send to the United States more than \$3,000,000 worth of lemons in a single year, Cuba, situated within three days of our leading ports, blessed with a climate and soil of an exceptional character for the cultivation of oranges, offers a wide field in which to obtain results. If in the years 1892 and 1893 Cuba exported to the United States bananas to the value of \$1,500,000, it will not be difficult to equal this amount again or even to surpass it. The British West Indies, which in the same period sent only \$1,300,000 worth, sends to-day of the same fruit \$3,000,000 worth.

#### Prune and Walnut Trade in Hungary.

Report of FRANK DYER CHESTER, Budapest, Hungary, Sept. 28, 1903, furnished for publication in the PACIFIC RURAL PRESS by the State Commissioner of Horticulture.

In general the new crop of prunes in Bosnia and Servia has not turned out to be larger than reported last June, and in consequence of a very weak crop the prices of new prunes has risen about 1 crown per 50 kilos (\$.203 per 110 pounds). In October prices will probably rise much higher, because instead of the usual 8000 carloads supplied by Bosnia and Servia together, there will be only from 3000 to 3500 carloads delivered this year. As a result the present prices for October delivery per 50 kilos (110.23 pounds) are as follows:

	Bosnian.	Servian.
Garnitures (assorted) Crowns (\$.203)	16.75	16.25
110 to 120	"	14.50
90 to 100	"	13.50
80 to 85	"	16.50
70 to 75	"	18.75
	22.50	22.00

The drying of the new prunes began about the middle of this month, yet shipments from the interior of Bosnia and Servia to the stations on the Save will not take place before the first of next month. October being the month in which, according to contract, the delivery must usually be accomplished. The quality of the new crop is said to be good, runs mostly to 120's, 100's and 85's, in equal quantities, but 75's also occur in smaller quantities; 65's are not expected at all this year. Later in October smaller prunes from the mountain regions will probably exceed in number. Quantitatively this year's crops in Bosnia and Servia are estimated to be 1500 and 1200 (according to others 1800) earloads respectively each of ten long tons.

#### WALNUT CROP OF HUNGARY.

Reports since June last as to the walnut crop of Hungary go to show that the conditions of the crop have not changed. It is estimated that there will be from 150 to 200 earloads (earload ten long tons) and prices will be from \$3.24 to \$4.06 per 110 pounds, delivered at place of production. There will probably not be any export of walnuts this year, as Hungary's crop will scarcely supply the home demand. On the other hand, Budapest dealers offer to supply any foreign demand by procuring shipments from the Balkans. The terms are payment at any bank against bills of lading.

#### French Almond Crop.

Report of VICTOR H. MORGAN, Vice-Consul, Marseilles, Oct. 6, 1903, furnished for publication in the PACIFIC RURAL PRESS by the State Commissioner of Horticulture.

Reports from my correspondents in the almond growing districts of Provence agree in confirming the fears expressed in the report of June 6th last. Owing to the severe late frosts, this fruit, while of good quality, is this year very scarce in the district mentioned. A total yield of from 4000 to 5000 bales is estimated, against 30,000 to 35,000

bales produced in years of plenty. In spite, however, of the local dearth, prices are ruling low, thanks to abundant crops in Italy and Spain, from which countries large importations are made by the French exporters, who, after shelling and classifying the fruit thus received, re-export it. The following prices are quoted to me to-day, but I am advised that market is likely to undergo a further fall:

Provence, shelled, per 220 pounds	\$27.02—\$28.95
Princess, unshelled, per 220 pounds	34.74—38.60
Berande, shelled, per 220 pounds	54.04
Flot, shelled, per 220 pounds	57.90
Aberande, shelled, per 220 pounds	15.44
Hard, shelled, per 220 pounds	6.95

### THE VETERINARIAN.

#### Answers to Queries.

By E. J. CREELY, D. V. S., Dean of San Francisco Veterinary College, 510 Golden Gate Ave.

#### TREATMENT FOR AN ABSCESS.

TO THE EDITOR:—Some of our cattle have a lump form under or on the side of their jaw, which breaks like a boil. The animals generally get very poor and occasionally linger a long time and then die. Some apparently get well, but a small lump often stays where the large one was. Some of the sores have a very bad odor, while other do not, and it does not smell the same. Is it caused by broncho grass and foxtails, or is it a contagious disease, and what should be done for it?—A SUBSCRIBER, Monticello.

The trouble is abscesses caused by a breaking down of tubercular glands. Treatment: Open up freely, thoroughly cleanse and sterilize, and pack with bichloride gauze. Give internally 1½ ounces of Fowler's solution of arsenic.

#### BAD TEETH—WORMS.

TO THE EDITOR:—I have a mare that is slobbering lately and she also has worms. What is best to do for her?—READER, Lincoln.

The mare's mouth is lacerated by sharp teeth. Have a qualified veterinary dentist fix the teeth, then give the

following powders, mixed with molasses, and spread on tongue with paddle: Chlorate potash, 3 ounces; iron citrate, 1 ounce; boracic acid, 1 ounce; alum, ½ ounce. Mix and make twelve powders; give two daily.

For worms, use a teaspoon each morning of one-half bicarbonate of soda and one-half sulphur.

#### SCOURS IN A HORSE.

TO THE EDITOR:—I have a driving horse that has been scouring very badly for three or four months. Have tried several kinds of condition powders, but they did no good. Dentists say his teeth are in good order. Will your authority in such matters please advise?—L., Cupertino.

Give internally the following powders: Iron sulphate, three ounces; tannic acid, one ounce; bismuth sub-galate, one and one-half ounce; soda bi-carbonate, four ounces. Mix and make twelve powders; give one each morning. Cease giving when the bowels are regular. Don't give much water before driving.

#### A COW WITH SCOURS.

TO THE EDITOR:—Please give advice as to the treatment of a cow afflicted with "scours." I think her trouble arose from eating fruit peelings, watermelon rinds and other scraps, and it has been very noticeable for several weeks. Her ordinary feed is wild clover hay, which agreed with her very well last year. On the advice of various neighbors, I have fed her rolled barley, fed her grain hay, alternating with the clover, and am now giving her a quart of flour each day, mixed raw into hot milk. She has constant access to a trough of fresh water and has a lump of rock salt in her manger.—W. L. R., Lakeport.

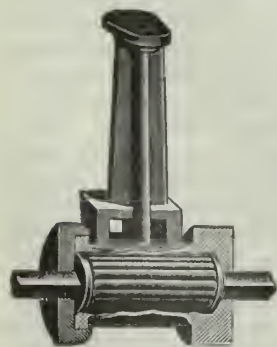
The trouble is intestinal catarrh, caused by irritating food or contaminated water. Look to the water supply and give wholesome food. Give one handful of whole flaxseed in each feed and give the following powder: Bismuth sub-galate, 3 ounces; soda hypophosphite, 4 ounces; iron carbonate, 3 ounces; gentian root, 1 ounce. Mix and make twelve powders and give two daily.

# THE "EUREKA" DISC HARROW.

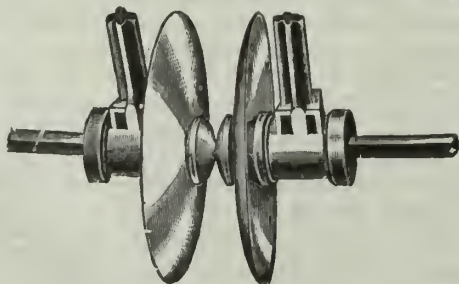
The "Eureka" is the most durable, compact, and lightest draft disc harrow manufactured. Has solid steel weight boxes, and patent scraper levers, operated by the driver's foot while he is in the seat. The line of draft is direct from the axle, and it is the only harrow on the market with ROLLER BEARING STANDARDS.

## 18 OR 20-INCH DISCS.

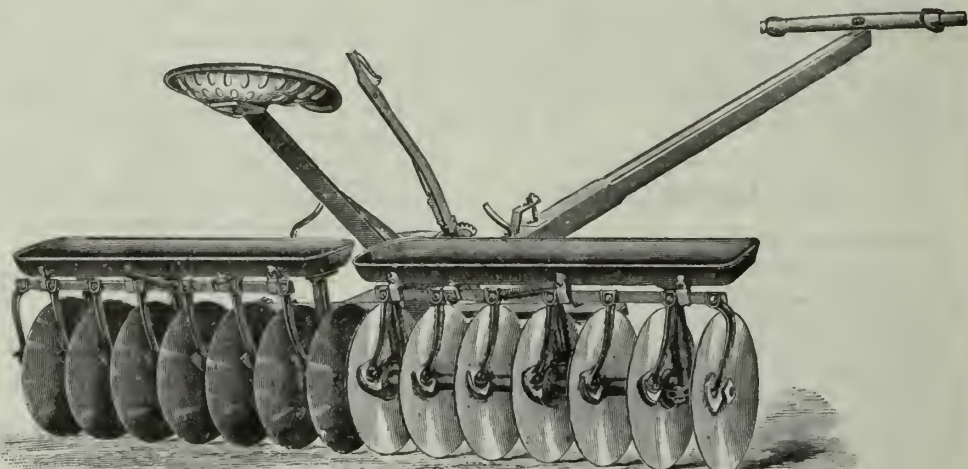
All disc harrows have a strong end pressure in an opposite direction from which the soil is turned. Our bumpers revolving in the same direction, simply roll against each other and prevent all friction.



ROLLER BEARING STANDARDS.



PATENT BUMPERS.



(ALL STEEL.)

OUR SEEDER ATTACHMENT for the above harrow will sow all kinds of grain, either as a Drill or as a Broadcast Seeder.

Sizes: 4-foot, 5-foot, 6-foot, 8-foot, 10-foot, 12-foot.

\*\*\*ADDRESS:\*\*\*

# BAKER & HAMILTON,

LOS ANGELES, CAL.

SAN FRANCISCO, CAL.

SACRAMENTO, CAL.



## Agricultural Review.

### Alameda.

**PROSPERITY.**—Livermore Herald: The Livermore valley has never known a more prosperous season than the present. Crops have been good and prices high. Many farmers who were supposed to be hopelessly in debt a few years ago have paid their last remaining indebtedness this year and again face the world with courage and hope.

### Butte.

**FIVE YEARS' GRAPES CONTRACTED.**—Gridley Herald: H. A. Woodworth and A. Truchlood have made a contract with the California Winery of Sacramento for the product of their vineyard for a term of five years. The price agreed upon secures to the vinyardists a very satisfactory return for their grapes. Among other conditions of the agreement is a stipulation that the vines shall not be irrigated during the life of the contract. Next year the greater portion of the vineyards will be in full bearing, and the owners hope for about 400 tons of grapes.

### El Dorado.

**PRICES OF WINE GRAPES.**—Placerville Nugget: Twenty carloads of wine grapes have been shipped by Dan Carr to the California Winery since the commencement of the grape shipping season. Eighteen of these have been shipped from the fruit house in this city and two from El Dorado. The cars carry from fifteen to twenty-five tons of grapes each, and the twenty cars will aggregate between 500 and 600 tons. The entire shipments last year amounted to 600 tons, but this amount will probably be exceeded this year. Net prices were somewhat lower this year. The winery paid \$15 per ton last year and paid the freight also. This year the grower is allowed \$15, but must pay the freight himself. This reduces the net figure to about \$12.

### Fresno.

**INVESTED NEAR EXETER.**—Sun: George C. Rooding, proprietor of the Faneher Creek nursery and part owner of the Exeter citrus nurseries, has purchased a half interest in the ranch of W. R. Wood. It is the intention to plant a great part of the ranch in citrus nursery stock and the remainder in orange orchards.

### Kings.

**RAISINS COMING FAST.**—Hanford Sentinel: The delivery of raisins at the packing houses this season is something far different than has occurred since the raisin business got thoroughly established. The weather for curing the crop this season has been faultless, and the result is that all the growers are out about the same time, and the goods are coming in in a bunch. The Inderrieden Co. has received in this city during the past two weeks 700 tons of goods and this morning at 8:30 there were thirteen large loads waiting turn to unload. At the other houses the same condition is reported. The raisins are all cured with much meat and weight in them, and the quality is superb.

**PROFITABLE BUSINESS.**—The oldest raisin vineyard in Kings county is that of Peter Sczaghini, at Grangeville. It has always been a profitable vineyard, and there are 11 acres of bearing vines therein. Last year this vineyard yielded 30 tons of cured raisins. This year it yielded a little less, 26 tons being taken from the 11 acres. A very conservative estimate of the average price for the goods would be \$85 per ton, or a return of \$200 per acre.

**JOHNSON GRASS.**—Speaking of getting rid of the despised Johnson grass, J. L. Sullivan says his son has succeeded in killing out a lot of it by shallow plowing, and where that grass once was very thickly set he has now a good and clean prune and peach orchard. He says it is no trick at all to get rid of the stuff.

### Los Angeles.

**SOUTHERN OLIVE CROP.**—A Los Angeles dispatch says the harvesting of the olive crop of southern California is now in progress. It is estimated that in the territory about Los Angeles there are 7500 acres in bearing this season, not counting the olive groves of Santa Barbara and San Diego counties. Estimates on the quantity of olives that will be taken from the groves may be changed a good deal by later returns, but some of the olive men are figuring on 5000 tons. That the oil production will be heavy the olive men generally agree.

**RAISING SQUABS FOR MARKET.**—Santa Ana Blade: A pigeon farm is what the young son of a Pasadena millionaire is indulging his fancy in. He has established a pigeon ranch at Goleta and recently shipped in 1000 birds, making a total of 4000 birds on the ranch. The young man is Freeman Ford, son of Todd Ford of

Pasadena. The young capitalist intends running his stock up to 20,000 birds before the winter season is over. There is a growing demand for squabs and Mr. Ford expects to reap a harvest by supplying squabs for the market. It is reported that one man near Los Angeles sold \$1600 worth of them last month. Mr. Ford is very enthusiastic over his enterprise, and there is no doubt but what good money can be made in raising squabs if the business is not overdone, as was the Belgian hare business three or four years ago.

### Madera.

**TWENTY-TWO THOUSAND SHEEP AT WATERFORD.**—Stanislaus News: Twenty-two thousand sheep in a body passing through the hands of the shearers and thence through the dipping vats is what may be seen at Waterford just now. These sheep are the property of several owners, who have driven them down from the mountain pastures for the purpose of shearing and dipping. For several weeks the bands of thousands have been coming and going, sometimes only a few hundred being in the Waterford yards of K. J. Osvald and at others the numbers running up to 10,000 and more. The shearing of the sheep now on hand and which go to make up the big bunch indicated in the above is just about completed. The dipping is in full swing and will require several days to finish. The Waterford pens and dipping plant are of great benefit to the sheep men who annually drive down from the mountain pastures to shear and treat their animals. The drive to the railroad before shearing has its advantages in that the wool clip is taken that much nearer the market without having to resort to hauling by wagons. From the shearing pens at Waterford the wool goes directly onto the freight cars and is carried to the great markets or to the seaport from which it is shipped. The sheep men are allowed to drive along the county roads and after the dipping is finished the several bands go slowly back to the winter pastures in the foothills of the Sierras.

### Mendocino.

**SOME ARTICHOKE.**—Ukiah Dispatch-Democrat: Grover King of Potter valley makes somewhat a specialty of gardening, and he brought to town a box of artichokes, the product of one hill. There was nearly a bushel of the succulent tubers, an enormous yield for a single hill.

### Orange.

**FIRST CELERY.**—Anaheim Gazette: The first car of celery from the Orange county peatlands to be shipped to the Eastern markets was sent out by the California Vegetable Union on October 29th to the C. H. Kuehne Commission Co. of Kansas City. Regular shipments will be made commencing Monday, November 2d. The total crop is variously estimated at from 1300 to 1700 cars.

**REDUCED BEAN YIELD.**—Revised estimates of the bean crop of the San Joaquin ranch, based upon the first results of the threshing, place it at from 65,000 to 70,000 sacks. The early estimates gave 75,000 sacks as the approximate figure.

**ASSOCIATION WALNUTS.**—Santa Ana Blade: Secretary J. D. Wilder of the Santa Ana Walnut Growers' Association estimates that one-half of this year's pack of walnuts has already been shipped out from the Association house. The amount to date is twenty-one cars, so that the total amount to be sent out is in the neighborhood of forty carloads. For the past several days an average of a car and a half each day has been processed and shipped. Mr. Wilder makes the statement that the walnuts as a whole are the best that have ever been handled by the Association, the size and quality being of the best.

### Riverside.

**TOO BIG FOR ONE EATING.**—Enterprise: A wagon arrived in the city to-day laden with cider and apples from the Peters & Evans ranch in the Yucaipa valley on the mountains. Included in the load was a box of fine apples for exhibition purposes. One specimen, a Rome Beauty, weighed when picked twenty-seven ounces and measured 15 inches in circumference.

### San Diego.

**IRRIGATING BARLEY FOR CROP OF 1904.**—Imperial Press: The first barley field the Press has heard of being irrigated this fall is that of W. E. Wilsie, south of Imperial. Mr. Wilsie has in 240 acres of barley and began turning in the water on the fields Tuesday. Thus the good work of growing another crop of barley, expected to reach 50,000 acres in the valley, is put under way. Irrigation has begun at least a month earlier than last year, and there are tens of thousands of acres of the grain which will receive its first irrigation during the next month. There will probably be none put in this year as late as the latest last year, for the

farmers have very generally learned the lesson of the futility of trying to grow a grain crop out of season. It is estimated that the average yield of barley will be about twenty sacks to the acre this year, implying an output of a million sacks, or about two million bushels for the valley. Barley is given preference over wheat for the reason that the farmers have three chances to market it. They can thresh it and ship the grain, or cut it for hay, or get good value out of it by turning hogs in the field.

**THRESHED 26,823 SACKS.**—Ramona Sentinel: Messrs. Barger & Stockton finished up the threshing of the Ramona valley grain Tuesday and the crew is disbanded. The season has been a very good one and very little time has been lost by bad weather. The total amount of grain threshed is 26,823 sacks, divided as follows: Barley, 15,923 sacks; oats, 8266 sacks; wheat, 2625 sacks.

### San Joaquin.

**FROM FIFTEEN ACRES, 7199 CRATES OF TOKAYS.**—Lodi Sentinel: The writer of this article took particular notice of the different packages shipped this season from this point, and watched the sales in the various Eastern markets. The neat, uniform package, packed not too loose nor too full, was the package that brought the best price, providing the fruit in the package was picked and packed at the right time. The greatest care should be exercised in picking the fruit for Eastern shipment. If it is plucked too green, it will arrive at its destination in a withered state, hence it will be just like leather, without sugar or flavor in it. And on the other hand, if left too long on the tree or vine it becomes too ripe and therefore arrives in the East in a nasty and over-ripe condition. There was a great mistake made by some of the vinyardists this season in topping their vines. Some entertained the idea that by topping their vines the grapes would color up better; but experience has taught us that the grapes least exposed to the sun have the highest color. Topping the vines not only destroys the color, but reduces the size of the berries and also diminishes the quantity of sugar. J. B. Cory took 7199 crates of grapes from fifteen acres of six-year-old Tokay vines, and up to the present they have brought him an average of 72 cents per crate f. o. b. at Acampo. This vineyard was well cared for and the result was that there was only about four tons sent to the winery. On the M. D. Bellows place adjoining Mr. Cory's, 700 crates were taken from a fraction less than two acres, with less than a ton to be hauled to the winery.

**SHIPPING ALMONDS.**—Wright & Corson have shipped about 125 tons of almonds this season with a twenty-ton shipment. Mason Bros. estimate their nut shipments at 160 tons and ten more will finish it. Prices have ranged from 7½ to 10¢, and the crop has been good. It has been a very fair almond season.

**BIG PUMPKINS.**—A mammoth pumpkin from the McMillan ranch near Terminous, is on exhibition in Chrisman & Co.'s. The vegetable weighs 156 pounds. Another one, larger than the above, and weighing 166 pounds, is also in the window. It is from the Gorman ranch near Terminous. Both pumpkins will be varnished and the stems made air-tight with sealing wax. In this state they will be forwarded to the St. Louis Exposition.

**POTATOES FOR TEXAS.**—Stockton Independent: The John T. Doyle Company shipped a carload of potatoes to Texas Friday night. This is the first consignment sent there for weeks, as the prices of spuds here have been too high to meet the figures given by the Colorado growers. If the tubers remain from 45 to 60 cents a sack the local commission men assert that they can compete with the Middle Northwest, which has a 54 cent freight rate against 75 cents for the California shippers.

**ALMOND YIELD.**—Stockton Mail: The season for almonds is over, and the shipments from this county are estimated to have been thirty carloads of ten tons each, the value of the nuts sent out being about \$55,500.

### Santa Cruz.

**BERRY PRODUCTION IN PAJARO VALLEY.**—Watsonville Pajaronian: In point of shipments this has been the banner berry season in the history of the crop in Pajaro valley. The season has now virtually closed, only light shipments being made by express. Up to this time 96,592 chests, or 541 carloads, of berries have been sent to market from this valley. The shipments included strawberries, Loganberries, raspberries and blackberries, but the major portion of the amount forwarded consisted of strawberries. Vegaled all other shipping points in the valley with 53,742 chests, or 336 carloads. Watsonville comes second with 27,750 chests, or 111 carloads. Aromas

forwarded 8500 chests, or 53 carloads, and Pajaro contributed 6600 chests, or 41 carloads.

**APPLES FOR EUROPE.**—A large quantity of Pajaro valley apples are being forwarded daily to European points and prices across the water are such as to return a nice profit. As long as good stock is sent prices will remain firm. There is a big shortage in the European fruit crop.

### Solano.

**AUSTRALIAN SALT BUSH.**—Republican: There is on exhibition in the Republican office a sample of the Australian salt bush, grown by C. E. Barnes on his place in Suisun valley. In appearance it resembles alfalfa to some extent, having crooked, irregular stalks and leaves. The sample was grown from the seed and represents a five months' growth. The stalks are 5½ feet in length, showing the prolific growth. It thrives well, even on alkali lands. It requires very little moisture. This sample attained its immense growth without cultivation or irrigation.

### Tulare.

**CITRUS FRUIT PRICES.**—The Tulare County Citrus Fruit Exchange reports the following as the average f. o. b. prices per box received for the various varieties of fruit shipped through that exchange for the season of 1902-03: Sweets, \$1.30; mikes and hloods, \$1.10; seeds, \$1.20; tangerines, \$1.38; valencias, \$1.73; grape fruit, \$1.05; navels, \$1.94; lemons, \$1.60.

**GOOD YIELD OF ZINFANDELS.**—Dinuba Tribune: H. Ruschhaupt has twenty acres of Zinfandel vines, two and a half years old, that yielded this season 110 tons of grapes, and Mr. Ruschhaupt is of the opinion that at least twenty tons went to waste on the vines, having dried before they could be picked. The same vines a year ago, when only one and a half years old, yielded fifteen tons.

**POTATO ACREAGE SHORT.**—Visalia Times: The potato acreage in this country is far short of what it usually has been, and "spuds" are likely to be "spuds" later in the season. Digging the new crop will not begin until Jack Frost pays a visit to the fields, and from present indications it will be some time before Jack makes his appearance in these parts.

**LARGE ACREAGE TO ALFALFA.**—Times: Bates, Davis & Miller, who own a 19,000-acre ranch in Kings county, intend to plant 2000 acres to alfalfa this season. They already have 1200 acres devoted to that forage plant. Their lands are about 3½ miles southwest of Lemoore and extending along both sides of Kings river for a distance of 9 miles. Mr. Miller states that they have already purchased fifteen tons of alfalfa seed.

**TULE POTATOES.**—Independent: There are not many people in this State who know what the "tule potato" is, yet they grow in great quantities in Sutter county and are worth about 5 cents a pound. The tule lands abound in a plant known as the wild flag, the roots of which are similar to the artichoke. The bulb-like roots are prized very highly by the Chinese for food and in the past the Chinamen have been in the habit of renting a piece of tule land for a season and in the fall dig these "tule potatoes." This year some of the land owners hit upon the idea of harvesting the crop themselves as an experiment and the results are so satisfactory that no doubt some of them will make a business of raising "tule potatoes" in the future.

### Yuba.

**PRUNES GO FURTHER THIS YEAR.**—Marysville Appeal: It is usually estimated that it takes from three and a quarter to three and a half pounds of green prunes to make a pound of the dried product. Mr. Mitchell, a well-known dealer in fruit in this and adjoining counties, says the present season marks a pronounced exception to the rule, it taking but two and five-eighths pounds of green fruit to the pound of dried. This he accounts for by the larger amount of saccharine matter in the season's crop, owing to the absence of the usual rains during the late maturity of the fruit.

## Horse Owners! Use GOMBAULT'S



## Caustic Balsam

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charge extra. 14, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## THE HOME CIRCLE

### The Farmer Feeds Them All.

The king may rule o'er land and sea,  
The lord may live right royally;  
The soldier ride in pomp and pride,  
The sailor ride o'er oceans wide;  
But this or that whate'er befall,  
The farmer, he must feed them all.

The writer thinks, the poet sings,  
The craftsman fashions wondrous things,  
The doctor heals, the lawyer pleads,  
The miner follows precious leads;  
But this or that whate'er befall,  
The farmer, he must feed them all.

The merchant, he may buy or sell,  
The teacher do his duty well;  
The men may toil through busy days,  
Or men may toil through pleasant ways,  
Beggar or king, whate'er befall,  
The farmer, he must feed them all.

The farmer's trade is one of worth;  
He's partner with the sky and earth,  
And partner with the sun and rain,  
And no man loses by his gain,  
And if men rise, or if men fall,  
The farmer, he must feed them all.

The farmer dares his mind to speak;  
He has no gift or place to seek,  
To no man living need he bow,  
For he who walks behind the plow,  
Is his own man, whate'er befall,  
Beggar or king, he feeds them all.

—Selected.

### In Love's Own Way.

It was delightful to be at home again. I had been away so long that I felt myself almost a stranger, even with father and mother.

The little town had grown miraculously, I thought, and the dear old home place had changed, too, and very much for the better. The lawn, where there used to be so many sand burrs, was beautiful now, and the trees had grown so that the house stood in a cool, shady grove. How old that made me feel! I could remember when those trees came up from the seed, and I used to be told not to step on them when I went out to play.

Even aside from the fact that it was home, this was an ideal place to rest, and rest was what I needed. I had been working very hard and was almost broken down.

The family were all sympathetic and ready to do anything for me. I found a hammock and cushions placed for me in a shady place and a pretty room, my own dear old room, all refitted for my use. The room and the hammock were very satisfactory, but it made me feel a little oddly to find a carriage awaiting me at the station, with pillows in the back seat. The home people had got the impression that I was really an invalid.

I accepted their attentions, however, as gracefully as possible, and since outdoor air was considered best for me, the hammock became my headquarters for the summer.

I had a dreadful experience there one evening. Father and mother had gone to a neighbor's, and my sister, Ella, was at the choir rehearsal.

I was watching the sun go down when they went away, and mother said that as it was warm I had better stay out until Ella came home (she would come first), and then she would carry in the cushions for me. So after the sun had set and it was quite dark under the trees, I still lay there thinking about the work I was to take up in the fall.

Presently I heard the gate shut, and then footsteps on the walk. I knew at once that it was Ella and the baritone. Mother had said, when I objected to the child going alone, that he would bring her home.

I sat in the hammock. It was very thoughtful of Ella to bring him in. She knew I had not seen him since my return, and Mr. Smith and I had been once very good friends.

To my astonishment they did not come to the hammock, but sat down on the bench near the lilac bush. What could the child be thinking of? Had she forgotten me? Well, he would ask for me in a moment, any way, so I sat still and waited.

They did not say a word for several

minutes and then he said, very softly, "Ella." I started in amazement. What made him talk in that tone and why didn't he call her Miss Westford? I felt indignant at the impertinence and wondered why Ella didn't resent it.

There was a perfect silence for some time. Then the baritone said softly and gently, "Darling." My eyes flashed. Would Ella allow that ill-bred fellow to go on? She surely ought to know better. I was so excited that I did not hear what she said at all, but I knew it was not what she ought to have said, for when he spoke again it was in the same loving tone, though I could not hear his words.

Unmistakably it was a love affair. He had evidently talked so to her before. How perfectly ridiculous! Why, Ella was a mere child, only eighteen. I was years older and no one had ever talked that way to me. What could mother be thinking about to allow such a thing! It must be that she did not know it. Well, I would see that it was stopped at once. That was my duty, of course. Ella must be sent to school. She ought to have been sent before.

The baritone, too! Why, he was years older than Ella. He was just about the right age for—he was older than I. He was a fine fellow, I used to think. Ella, indeed! He must be flirting with her. No, that could not be. He was too good for that.

My cheeks burned and my heart beat fast. How my head ached! Why didn't mother come? I leaned back in the hammock to compose myself.

"Sit closer, dear," said the baritone. "I want to talk to you."

Suddenly I realized what I was doing, I, Elizabeth Jane Westford, actually eaves-dropping. But what could I do? If I spoke they would know I had been listening all the time. I buried my head among the cushions and held my hands over my ears. I was so miserable! And the tears were getting on the rose-colored cushion. Even in my distress I wondered if it would fade.

I had not noticed before how warm the evening was. At last I could endure the cushions no longer and sat up with my hands still over my ears. The moon had risen, and I could see two people coming down the walk. They stopped at our gate. Was it—could it be—yes, it was Ella. "Mother," she called, "is that you under the lilac?" Then in a lower tone, "Yes, it is. Good night, Mr. Smith; thank you."

I dropped back dazed. Father and mother on the bench by the lilac! I had forgotten that mother's name is Ella. How lover-like they were! It was perfectly charming. I wondered why they were going in. The moonlight made the evening pleasanter than ever.

Then mother called to me that it was getting damp, and I was surprised when I gathered up my books to find that I was crying again. I did not know why, I am sure I was very happy.

That was early in the summer. I know father's voice better now—yes—and the baritone's, too. He has a very fine voice. He says "darling" sometimes, as father does, too.

Ella is not going away to school this fall. She will finish her course in the high school first.

I am not going to teach either. I—well—you see, Mr. Smith thinks I need more rest.—*Business Woman's Magazine.*

### Curiosity Gratified.

"Colonel," the long-nosed man remarked, "they say you're purty rich. Would you mind tellin' me how you made your money?"

"Not at all," replied the affable stranger who was visiting friends in the village. "I made it by dealing in green goods."

"Green goods? Great Scott!" gasped the other. "Buyin' 'em or sellin' 'em?"

"Selling them," said the stranger. "Let me tell you confidentially, no man ever got rich buying them."

"Gee! I never heard of the like! You own right up to it, do you?"

"Certainly. What's the use of try-

ing to hide it?" You'd find it out sooner or later, anyway. Somebody would be sure to tell you.

"Where did you operate? In New York?"

"No. Down in Georgia. I've got a watermelon farm down there, sir."

The long-nosed man gasped again, but said nothing further.—*Chicago Tribune.*

### Drugs.

Do not make an apothecary shop of your stomach. We have recently read of several deaths resulting from dosing with headache powders and headache tablets. It is time to call a halt. In many cases a complete cure may be had by observing proper sanitation. Eat only wholesome food; do not neglect the bath; do not sleep in the clothing worn during the day; breathe plenty of pure air, having the house, particularly the bedrooms, well ventilated and the beds well aired; take plenty of out-door exercise and do not tamper with drugs. If sickness overtakes you and does not yield to simple treatments, call in a conscientious and competent physician.

This is a matter of so great importance that we reproduce here the full text of an article that appeared recently in one of our daily journals written by one who had thoroughly canvassed the subject.

"The injurious effects of the so-called headache powders and headache tablets are now calling for the services of physicians.

"The physician himself is primarily responsible for the popularity and increasing use of these remedies. While he is calling a halt and pointing out the danger of their use, the favor he showed to them a few years ago cannot be recalled.

"These headache remedies, cures for rheumatism and neuralgia, are practically all of them coal-tar products. The first of these to come from the chemist's laboratory bore the name kairin. It failed in popular favor because of its exceeding bitterness. The first to achieve favor among these so-called new area remedies was anti-pyrene, also known to chemists as dimethylphenylpyrazolon.

"Therapeutically this is a many-sided medicine, playing successfully the role of an anti-fever, anti-rheumatic, anti-neuralgic and blood-stopping remedy, and being employed against headache, whooping-cough, chorea, bronchial asthma and seasickness.

"The danger in the use of anti-pyrene as of all other coal-tar products that are used as specifics for the relief of headache is that they produce a lowering of the blood pressure and produce heart failure and collapse. This has caused abandonment of its use by physicians in many diseases, chief among which in influenza or grip.

"The brothers of anti-pyrene are anti-kammia, phenacetine, anti-febrine and acetanilid—all equally dangerous.

"Druggists say that there are now no fewer than 150 remedies, made chiefly of some one of these coal-tar products. One of these, bearing the name of Sulphonal, introduced in 1888, as a hypnotic in use by many physicians for patients suffering from mental diseases and hailed as a most beneficent remedy, has in later years been denounced by good authority as a highly dangerous poison.

"The popular proprietary form of these headache remedies is now that of the tablet. They are, druggists say, more in use by women than men. Physicians say that deaths among women caused by taking these headache remedies are becoming so frequent as to be the subject of much comment in the profession.

"Most of the fatalities, it is said, are persons whose heart action is weak. Almost every one of these headache powders or tablets now on the market has been found on analysis to contain some one of these mischievous coal-tar products. The drug costs the proprietary medicine man only 30 cents a pound, and if he can build up a sufficiently large demand there's millions in it."

"Fifteen grains is an ordinary dose,

but some persons, in order to produce effects after becoming habituated to its use, take two or three times that amount. But even a five-grain dose may be deadly, it is said, to a person with very weak heart action.

"The drug's effect on the human system is to lower the blood pressure, which is usually the cause of headache. An overdose paralyzes the heart when it is dilated and causes death.

"Physicians notice that those under the effects of the drug have blue finger nails and a blueness about the lips, caused by the sudden lowering of the blood pressure. Some of the more costly headache cures contain a heart stimulant to counteract the deadly effect of the anti-kammia, anti-pyrene, phenacetin, acetanilid, or whatever it may be, but the stimulant is usually nearly as dangerous as the so-called anti-febrine. Some of the tablets and powders contain, in addition to the coal-tar product, caffeine, with bicarbonate of soda; others contain strychnine as a heart stimulant.

"Physicians say that while they are curtailing the use of these dangerous remedies nearly every druggist encourages their sale by having a headache powder of his own invention. In almost every case the chief ingredient in such remedies is a coal-tar product with no protection for the heart. These are classed by physicians as deadly."

### Ways of Cooking Eggs.

It may sound somewhat odd to speak of the "season" of eggs, since they are in evidence all the year round, but assuredly they have their season, in common with all other animal or vegetable products. When eggs are cheapest and most plentiful, they are also most wholesome. A housewife is wise to seek for as many ways of using them as she possibly can. Most people take an egg for breakfast, but a new way of poaching one for an invalid's tray is to butter the inside of a cup, separate the white from the yolk of a new-laid egg, whisk the former to a stiff froth and put this into the cup, making a cavity in the middle wherein to slip carefully the yolk. Squeeze a drop or two of lemon juice on the top, then set the cup in a small saucepan of boiling water, and let it poach thus until the white is set firm. In the cooking the froth will rise so as nearly to fill the cup. Invert a plate over the cup and turn out the egg, sprinkle a pinch of chopped parsley on the top; serve at once.

Another equally delicate mode of making a sweet dish for dessert is to poach the whipped whites in sweetened milk by dropping small spoonfuls in when it is near the boiling point. When all the whites have been poached and lifted out, the beaten yolks are added to the milk and stirred over the fire until a thickened custard is obtained; this can be flavored according to taste. Pour the custard into a compote dish, and set the poached whites on the top.

Boil till hard three or four eggs; throw immediately into cold water to prevent discoloration, then strip off the shells. Divide the eggs in halves, and cut off the points so they will stand firmly on a dish; remove the yolks from each half, and to them add a spoonful of white bread crumbs soaked in milk, the same amount of soft butter, some chives and sweet herbs minced, also salt and pepper, or, instead of pepper, a few drops of tabasco or tomato chutney will be an improvement. Mix these ingredients and then refill the eggs. Butter a fire-proof china dish, sprinkle the bottom with fine herbs and crumbs, set the eggs thereupon and heat in a quick oven for just five minutes.

A puree is cooked separately by stewing well washed and picked sorrel in a little butter until it is so reduced that it can be beaten with a wooden spoon. Season this well with salt and pepper, and beat in a couple of spoonfuls of thick cream. The eggs are in the meantime baked in buttered cups, and when just set they are turned out on to the puree, a sprinkling of finely minced fresh onion on the top of each. This dish also should be served hot as soon as cooked. It goes without saying that eggs baked in this way might be



served on any other kind of puree, surrounded with stewed fresh peas; or a savory brown sauce might be substituted for the vegetable.

Another favorite dish of baked egg is also easily prepared. Butter the bottom of a shallow enameled dish or a pie dish; sprinkle in first a few bread-crumbs; break into this as many eggs as the dish will reasonably hold without their running into one another, cover these thickly with grated cheese, a sprinkling of salt and pepper, pour in the greater part of a small jugful of cream and add one or two bits of salt butter. Set this dish in a moderate oven to brown the surface slightly and cook the eggs, then serve at once.—N. Y. Tribune.

### The Habit of Not Feeling Well.

Few people realize that their ailments are largely self-induced. They get into a habit of not feeling well. If they get up in the morning with a slight headache or some other trifling indisposition, instead of trying to rise above this condition, they take a positive pleasure in expatiating upon their feelings to any one who will listen. Instead of combating the tendency to illness by filling the lungs with pure fresh air, they dose themselves with "headache tablets" or some other patent specific warranted to cure whatever ill they think they are suffering from. They begin to pity themselves, and try to attract pity and sympathy from others. Unconsciously, by detailing and dwelling upon their symptoms, they reinforce the first simple suggestions of illness by a whole army of thoughts and fears and images of disease, until they are unfitted to do a day's work in their homes or offices.

It is said that man is a lazy animal. We are all more or less prone to indolence, and it is the easiest and most natural thing in the world for young people to accustom themselves to lying down or lounging on a sofa because they think they are tired or not well. Much so-called invalidism is simply laziness, fostered and indulged from childhood. There is a great danger that girls who are delicate while growing up, and lounge around the house and lie down whenever they feel the least bit out of sorts, will form a habit of invalidism when they reach maturity. How often do we see such girls "brace up" at once whenever anything happens which interests or excites them! An invitation to a reception or ball, or any other pleasant social function, acts like a tonic. For the time being an instantaneous cure is effected. They are as well as anybody until after the entertainment.—Success.

### Just Like Her.

An old man would not believe that he could hear his wife talk at a distance of 5 miles by telephone.

His better half was in a country shop several miles away, where there was a telephone, and the skeptic was also in a place where there was a similar instrument.

On being told how to operate it he walked boldly up and shouted, "Hullo, Sarah!"

At that instant lightning struck the telephone and knocked the old man down. As he scrambled to his feet he excitedly cried:

"That's Sarah, every inch."

HERE is something that will make us all weep: "Tenderly she laid the silent, white form beside those that had gone before. She made no outcry, she did not weep. Such a moment was too precious to be spent in idle tears. But soon there came a time when it seemed as if nature must give way. She lifted her voice and cried loud and long. Her cry was taken up by others who were near and it echoed and re-echoed over the grounds. Then suddenly all was still. What was the use of it all? She would lay another egg to-morrow."

She—Gertrude says she will never marry until she finds her ideal. He—What is her ideal? She—Oh, any man who will ask her.—Illustrated Bits.

### Domestic Hints.

**POTATOES STEWED WITH BACON.**—Prepare creamed potatoes in the usual way, using cold boiled potatoes cut in cubes and warmed in a cream sauce. When they have simmered about five minutes add bacon which has been cut into tiny squares and fried until slightly brown. They should be well drained before they are put with the potatoes, as a greasy dish is not desired.

**SOFT CARAMELS.**—One quart (or two pounds) of brown sugar, one-half pint of milk, one-third cup of butter, one-half cake of chocolate are the ingredients. Boil for soft caramels nine minutes, then remove from the fire and stir steadily for five minutes, but not until the mixture is so stiff that it will not pour into a pan. Mark off into squares. This candy will be rich and crumbly.

**TOMATO AND CORN SALAD.**—Pour boiling water over large smooth tomatoes to loosen the skins, and set on ice. When perfectly cold, gouge out the center of each tomato with a spoon and fill the cavity with boiled corn cut from the cob and left to get perfectly cold; then mix with mayonnaise dressing. Arrange the tomatoes on a chilled platter lined with lettuce, and leave on ice until wanted. Pass more mayonnaise with the salad.

**BAKED QUINCES.**—Baked quinces are wholesome and delicious. Core and pare them and put them in a deep earthen dish. Fill the cavities with sugar and a little grated lemon rind. Add water in abundance, as the quince is a very dry fruit. Cover closely and bake in a moderate oven until tender and fine red. Serve cold with whipped cream. Baked quinces and apples may also be used in combination, baking until very soft, or cored apples may be stuffed with bits of quince cooked tender and then baked with plenty of water in the baking dish.

**APPLE BATTER PUDDING.**—An apple batter pudding is made by slicing tart apples into a deep dish, adding sugar and a little water, and baking until nearly tender enough. Prepare the batter by sifting together two cups of flour, three tablespoonfuls of baking powder and a little salt. Beat an egg and mix it with a cupful of milk, half a cupful of sugar and two tablespoonfuls of melted butter. Stir the flour into this mixture and pour the batter over the apples. Bake about twenty minutes and serve with whipped cream or a sweet sauce. This pudding may be made with berries, fresh or dried; peaches, or other fruit.

**PICKLED PEARS.**—Pickled pears are recommended for a delicious winter relish. The ripest and most perfect fruit is called for. Pare and remove the blossom end. For every seven pounds of fruit allow a little more than half the weight of sugar, a pint of cider vinegar and a cupful of water. The sugar, water and vinegar is made into a syrup with the addition of selected spices tied in a little bag. When this boils put in the pears, whole if they are small, halved if too large, and let them simmer gently for half or three-quarters of an hour. Lift them carefully into jars, boil the syrup until slightly thick and pour over the fruit.

**MACARONI WITH TOMATO SAUCE.**—To prepare macaroni with tomato sauce in Neapolitan fashion, boil in an abundance of salted water three-quarters of a pound of macaroni for three-quarters of an hour. Then drain it and put in a saucepan with a cupful of rich brown gravy and a cupful of tomato sauce. Make the latter by mixing one sprig of thyme, one carrot and one onion, cut in dice, and fried in a tablespoonful of butter until well browned. Add two tablespoonfuls of flour, and when this is mixed in, one quart of fresh tomatoes cut in and pepper and a teaspoonful of powdered sugar. Simmer the whole for forty-five minutes and strain it through a quarters. Stir well and season with salt puree sieve. Add six good mushrooms, a small piece of red tongue cut in dice shape. Season the macaroni with pepper and salt, adding a quarter of a pound of grated Parmesan cheese. Pour the sauce of tomatoes and gravy over the macaroni and serve it very hot.

## Checkmate Frost! Save Fruits!

USE

### Griffiths-Munson Briquettes.

Burn on ground three to four hours. No kindling required. Twenty-five fires per acre. Two to three briquettes to fire, according to exposure. If temperature moderates, can be extinguished and used again until consumed. Water does not affect them. Strong heat in three minutes.

For further particulars, apply to

**GRIFFITHS-MUNSON BRIQUETTE CO.**  
128 HELLMAN BLOCK, LOS ANGELES, CAL.

## GLENN RANCH,

Glenn County, - - California.

## FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## Ponder Well This Proposition.

I offer for sale 42 acres fruit land in the Santa Cruz mountains, 5 miles from Los Gatos; 3000 trees, full bearing. This is a delightful summer resort, good roads and plenty of water and will accommodate 35 guests, and one-half of the applicants have to be turned away. A sturdy young couple can easily clear \$6000.00 a year.

Send for a circular giving full description of this valuable and charming place. The price has been reduced to \$12,000.00. Easy terms.

**JOHN F. BYXBEE, Palo Alto, Santa Clara Co., Cal.**

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

**GEO. E. DUHIG, Administrator, Napa, Cal.**

## Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

**MAZE & WREN, Modesto, California.**

## STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**

### SOMETHING NEW UNDER THE SUN.



### A Cheap, Effectual and Permanent Method of Propping Trees.

Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

**HOYT'S TREE SUPPORT CO.**  
WATSONVILLE, CAL.

Or, R. M. TEAGUE, San Dimas, Cal.

Distributor for Southern California.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at 425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL!  
INVESTIGATE!

### MOTOR VEHICLE CO.

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.



### A Position or Your Money Back.

A business education pays when you can turn it into cash.

We want to help you make it pay. With over 500 positions to fill a year, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

**R. L. DURHAM,**

305 Larkin St., San Francisco, Cal.

### School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.

113 FULTON ST., one block west of City Hall,  
SAN FRANCISCO, CAL.

Open All Year. A. VAN DER NAILLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, November 4, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	80 1/2 @ 80 3/4	78 3/4 @ 79 1/2
Thursday.....	80 3/4 @ 79 3/4	79 3/4 @ 79
Friday.....	79 3/4 @ 80 3/4	78 3/4 @ 79 1/2
Saturday.....	80 @ 81	78 3/4 @ 79 3/4
Monday.....	81 3/4 @ 80 3/4	79 3/4 @ 79 1/2
Tuesday.....	80 1/2 @ 79 3/4	79 3/4 @ 78 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	43 1/2 @ 44 1/2	42 3/4 @ 43 1/2
Thursday.....	44 1/2 @ 43 3/4	43 3/4 @ 42 3/4
Friday.....	43 3/4 @ 44	42 3/4 @ 43
Saturday.....	43 3/4 @ 44 1/2	42 3/4 @ 43 1/2
Monday.....	44 1/4 @ 44	42 3/4 @ 43
Tuesday.....	44 3/4 @ 43 3/4	43 3/4 @ 42 3/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 43 3/4 @ 1 43	\$1 40 3/4 @ 1 40
Friday.....	1 41 3/4 @ —	1 39 3/4 @ —
Saturday.....	— @ —	1 39 3/4 @ 1 39 1/4
Monday.....	1 42 @ —	1 39 3/4 @ 1 39 1/4
Tuesday.....	1 41 @ 1 40 3/4	1 38 3/4 @ 1 39
Wednesday.....	1 40 3/4 @ 1 40	1 38 @ —

### Wheat.

The market for wheat in this center continues to rule quiet, with shippers doing next to nothing, and millers not inclined to purchase very freely at extreme rates generally demanded for desirable milling grades. There is not much wheat offering, however, and particularly is the market lightly stocked with choice to select milling stock. While there is no noteworthy weakness to the market for wheat of any description, values are being better maintained on high grade than on common qualities. No. 1 shipping could not be placed in large quantities at lowest quotation noted, foreign values not justifying the prices now ruling here, despite the fact that freight rates by deep-sea ships are the lowest ever known. First-class iron ships can be obtained on wheat charter at 12s. 6d., to Cork for orders to any leading port in the United Kingdom, or to Havre, Antwerp or Dunkirk. The above figure is equivalent to \$3 per long ton. Although the first half of the current cereal year is nearly gone, the wheat shipments up to date from this port do not aggregate 17,000 tons. October made a better showing than any previous month, eleven clearances being made, including the only full cargo this season, but the total for October was only 8,000 tons. In October of last year, when the export trade was by no means brisk, nearly 23,000 tons went outward by sea, or a third more than the total shipments of the past four months. A year ago there were 27 vessels in the engaged grain fleet in port, as against 14 at present date.

California Milling.....\$1 42 1/2 @ 1 52 1/2  
Cal. No. 1 shipping, alongside.....1 38 3/4 @ 1 41 1/4  
Oregon Club.....1 37 1/2 @ 1 45

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.43 3/4 @ 1.40.  
May, 1904, delivery, \$1.40 3/4 @ 1.38.  
Wednesday, at the forenoon session of Exchange,  
December, 1903, wheat sold at \$1.40 3/4 @ 1.40; May,  
1904, at \$1.38 @ —.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	65d @ 65 1/2 d	— @ — s-d
Freight rates.....	— @ 17 1/2 s	11 1/2 @ 12 1/2 s
Local market.....	\$1 30 @ 1 35	\$1 38 3/4 @ 1 41 1/4

### LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on November 1 and October 1:

Tons.	Nov. 1.	Oct. 1.
Wheat.....	47,786	51,312
Barley.....	164,305	171,467
Oats.....	6,382	6,600
Corn.....	294	474

\*Including 12,854 tons at Port Costa, 33,032 tons at Stockton.

†Including 44,525 tons at Port Costa, 17,153 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst., show a decrease of 3526 tons for the month of October. A year ago there were 78,642 tons of wheat in near-by warehouses.

### Flour.

The last China steamer took 14,400 barrels, being little more than half the quantity shipped on preceding steamer. Marked decrease in the flour movement to Asia is anticipated the current month. Freight rates by steamer to the Orient have been lately quite low, but are now higher. Prices for flour remain quotably as last noted, and prospects are not favorable for any material decline being soon experienced. Stocks are of only moderate volume and include very little superfine.

Superfine, lower grades.....	\$3 00	@ 3 25
Superfine, good to choice.....	3 35	@ 3 50
Country grades, extras.....	4 00	@ 4 25
Choice and extra choice.....	4 25	@ 4 50
Fancy brands, jobbing.....	4 50	@ 4 75
Oregon, Bakers' extra.....	3 50	@ 4 00
Washington, Bakers' extra.....	3 50	@ 4 15

### Barley.

While there are no evidences of any very active trading, there is more doing in barley than in any other cereal, and still greater quantities would be changing hands were it not for the rather stiff views entertained by the majority of holders. The export movement continues of comparatively large volume and is now slightly in excess of the aggregate for last season at corresponding date. Several large cargoes were sent afloat this week, making the total barley shipments for the season close to 130,000 tons. A ship was added to the engaged list this week to load barley for Europe at 12s. 6d., being the lowest freight rate on a straight barley cargo yet recorded. The speculative market was rather firm but not very active. Sales of No. 1 feed, December delivery, were mainly within range of \$1.13 1/4 @ 1.14 1/4. At close there was an easier tone, December option selling at \$1.13.

Feed, No. 1 to choice.....	\$1 15	@ 1 16 1/4
Feed, fair to good.....	1 12 1/2	@ 1 13 1/4
Brewing, No. 1 to choice.....	1 17 1/4	@ 1 22 1/4
Chevalier, No. 1 to choice.....	1 37 1/4	@ 1 47 1/4
Chevalier, common to fair.....	1 12 1/2	@ 1 32 1/4

### Oats.

Business in this cereal is of fair volume. Market is steady for ordinary feed qualities and firm for choice to select seed oats, the quotable range of prices remaining much the same as preceding week. Fair to medium grades of Reds and Whites are most in evidence. High-grade Blacks are in lightest supply and are commanding the stiffest figures.

White oats, fancy feed.....	\$1 32 1/2	@ 1 35
White, good to choice.....	1 25	@ 1 30
White, poor to fair.....	1 20	@ 1 22 1/2
Milling.....	1 27 1/4	@ 1 32 1/2
Surprise, good to choice.....	1 25	@ 1 35
Black Russian feed.....	1 20	@ 1 35
Black for seed.....	1 50	@ 1 65
Red, fair to choice.....	1 20	@ 1 25

### Corn.

Holders are contending for about the same figures as last quoted on offerings of Large Yellow and Large White, but buyers are taking hold slowly at the prices asked. Eastern product constitutes a considerable proportion of present stocks. Small Yellow is not quotable, being virtually out of market at present.

Large White, good to choice.....	\$1 35	@ 1 40
Large Yellow.....	1 35	@ 1 40
Eastern, in bulk.....	1 25	@ 1 30

### Rye.

Not much coming forward, nor are spot stocks of heavy proportions. Values are ruling steady at last quoted range.

Good to choice, new.....	\$1 25	@ 1 30
--------------------------	--------	--------

### Buckwheat.

Recent arrivals have given the market a fair supply, there being only local demand. In quotable values there are no changes.

Good to choice.....	\$1 90	@ 2 25
---------------------	--------	--------

### Beans.

The market has been more quiet since last review than at any date since the opening of the current season. Most of the local houses are fairly stocked for the present, and with demand slow from the outside, there has been little opportunity for the advantageous disposal of offerings. Quotable values show no very marked reductions, but if undue selling pressure was exerted, full figures below noted could not be realized. That the shipping demand will long remain sluggish is not probable. With a renewal of inquiry on shipping account the market would speedily resume firmness. Holders as a rule are content to wait, rather than grant material concessions to effect sales.

Pea, fair to good, 100 lbs.....	\$2 75	@ 3 00
Small White, good to choice.....	3 00	@ 3 25
Large White.....	2 25	@ 2 50
Pinks.....	2 15	@ 2 35
Bayos, good to choice.....	2 25	@ 2 35
Reds.....	2 75	@ 3 00
Limas, good to choice.....	2 85	@ 3 00
Black-eye Beans.....	2 25	@ 2 35
Garbanzos, large.....	2 00	@ 2 25
Garbanzos, small.....	1 25	@ 1 50

### Dried Peas.

There are no heavy offerings at present of either Green or Niles, the demand is fair, and market for No. 1 to choice is moderately firm at ruling figures.

Green Peas, California.....	2 00	@ —
Niles Peas.....	2 30	@ —

### Hops.

Receipts have not been particularly heavy the current week and have represented in the main prior arrival purchases. In the absence of any special selling pressure, the market presents a fairly firm tone. Under free buying, full current quotations and possibly a little more would have to be paid for best qualities. Common or seriously faulty hops are not receiving much attention and are going at such irregular figures as to be hardly quotable in a regular way. The Ukiah Dispatch Democrat of Oct. 30 reports recent sales in that section of about 2,500 bales at 19 1/2 @ 20c., and says "there are only about two lots grown in this valley yet to be sold. There are some Potter

valley and Lake county hops here still unsold, but it will probably not be long until the crop is entirely cleaned up." Recent mail advices from New York report the situation as follows: "Early in the week there was a decline, but within the past day or two, however, the feeling has become a little stronger, holders expressing more confidence in the position, and they are asking about 1c. more for the better grades. The lack of demand in the interior of this State caused a decline and the best stock settled to 30c., very prime grades selling at 27 @ 28c. The influence of the lower markets at primary points has been felt in a weaker feeling here, and values have been shaded 1 @ 2c. per lb. At the lower figures, however, some business has resulted. Brewers are beginning to take more interest and dealers have been freer buyers. Late advices from London indicate firm English markets, with a fair demand for the best stock. Germany has eased off a little, but good business is reported."

California, good to choice, 1903 crop..... 20 @ 23

### Wool.

The local market is showing little life, so far as transfers from first hands are concerned. Most of the wool here is in second hands, and there is little coming forward which does not represent prior arrival purchases. Beyond purchases being made in the interior there is scarcely anything at present upon which to base quotations in this center. Eastern markets are quoted quiet but steady. A Panama steamer sailing this week took 111,105 lbs. grease wool for New York.

### FALL.

Humboldt and Mendocino.....	11	@ 13
Mountain, free.....	9	@ 11
San Joaquin Plains.....	7	@ 10

### Hay and Straw.

For high grade horse hay the market is firm, there being little of this sort arriving. Most of the choice Wheat and Oat hay not already placed is being held for better figures than now current. Immediate offerings are principally common grades of stable hay and Alfalfa. For these descriptions the market continues to incline in favor of buyers. Current values on straw are being well maintained, with offerings light.

Wheat, good to choice.....	\$13 00	@ 16 50
Wheat and Oat.....	13 00	@ 15 00
Oat, fair to choice.....	11 00	@ 14 50
Barley.....	9 50	@ 13 00
Clover.....	10 50	@ 11 50
Alfalfa.....	9 50	@ 11 50
Stock hay.....	8 00	@ 9 50
Compressed.....	13 00	@ 16 50
Straw, by bale.....	60	@ 65

### Millstuffs.

Stocks of Bran were on the increase, and market inclined in favor of buyers, but in the absence of undue selling pressure, there was no pronounced decline in quotable rates. Middlings were not offering in great quantity, and prices for same ruled steady. Values for Rolled Barley and Milled Corn remained quotably as last noted.

Bran, by ton.....	\$20 00	@ 22 00
Middlings.....	24 00	@ 28 00
Shorts, Oregon.....	21 00	@ 22 50
Barley, Rolled.....	24 00	@ 25 00
Cornmeal.....	30 00	@ 31 00
Cracked Corn.....	30 50	@ 31 50

### Seeds.

Alfalfa continues to be held at comparatively stiff figures, 15 @ 16c. being asked for good to choice California, but these prices are not obtainable in a wholesale way. Utah Alfalfa is held at 13 1/2c. in earload lots at primary points, the freight charges to this point being about \$1 per cental, making the cost landed here, including drayage and other incidental expenses, nearly 15c. A little better tone is reported to the market for Yellow Mustard, but no quotable improvement in values. Other seeds below noted are being in the main steadily held.

	Per ctl.
Alfalfa, Cal., good to choice.....	\$14 00 @ 15 00
Alfalfa, Utah.....	15 00 @ 16 00
Flax.....	2 00 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25

	Per lb.
Canary.....	5 @ 5 1/4
Rape.....	13 1/2 @ 24
Hemp.....	3 @ 3 1/2
Timothy.....	6 @ 6 1/2

### Honey.

The movement is not active, and for other than most select qualities the market is easy in tone. Stocks are largely of amber grades. Water white Extracted, uncandied and fancy white Comb are being held in most instances slightly above quotable rates, and the higher prices are being realized in a small way, there being little of these descriptions on the market. The East is said to be drawing considerable honey from Porto Rico, mostly dark colored. A steamer sailing Monday for New York took 250 cans Extracted for Boston.

Mr. J. F. Crowder, of Selma, a director of Central California Honey Producers' Association, informs us that the amount of this year's crop still available for ship-

ment from San Joaquin valley does not exceed thirty-five carloads. This statement is made because of reports afloat making the available honey more than twice as large as it really is. The Association is encouraged as to the outlook by the free shipments abroad which have been made from this port during the last month.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	4 1/2 @ 5
Extracted, Amber.....	4 @ 4 1/2
Extracted, Dark Amber.....	3 3/4 @ 4
White Comb, 1-frames.....	13 @ 14
Amber Comb.....	9 @ 11

### Beeswax.

Stocks in this center are of light volume. There are no changes to report in quotable values, the market ruling steady. Good to choice, light 1 lb..... 27 1/2 @ 29  
Dark..... 25 @ 26

### Live Stock and Meats.

Market for Beef is firm at ruling rates for best qualities and steady for the lower grades. Veal is selling at about same range as for a week or two preceding, with arrivals not very heavy and good demand for choice at full current rates. Mutton is arriving in ample quantity for the immediate demand. Current values on fine Wethers are being well maintained, but for ordinary Ewes the market is barely steady. Large Lamb is in good supply, but choice Small is decidedly scarce and salable to advantage. Hogs were in rather free receipt and for other than most desirable packing stock, large sizes, the market lacked firmness.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 1 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6
Beef, 3rd quality.....	4 1/2 @ 5
Mutton—Ewes, 7 @ 7 1/2 c; wethers.....	7 1/2 @ 8
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 5 1/2
Hogs, large, hard, over 250 pounds.....	5 1/2 @ —
Hogs, small, fat.....	5 @ —
Veal, small, 1 lb.....	8 @ 9
Lamb, Spring, 1 lb.....	9 @ 10

### Hides, Skins and Tallow.

There has been further shading of rates in prices for Wet Salted hides. Values for Dry hides remain as last quoted. Tallow market is steady, with demand fair.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	9 @ 9 1/2	8 @ 8 1/2
Medium Steers, 48 to 56 lbs.....	8 @ 8 1/2	7 @ 7 1/2
Light Steers, under 48 lbs.....	7 1/2 @ 7 3/4	6 1/2 @ 7
Heavy Cow Hides, over 50 lbs.....	7 1/2 @ 7 3/4	6 1/2 @ 7
Light Cow Hides, under 50 lbs.....	7 1/2 @ 7 3/4	6 1/2 @ 7
Stags.....	— @ 5	— @ 4 1/2
Wet Salted Kip.....	— @ 9	— @ 8
Wet Salted Veal.....	9 1/2 @ 10	8 1/2 @ 9
Wet Salted Calf.....	— @ 10 1/2	— @ 9 1/2
Dry Hides.....	15 @ 16	14 @ 15
Dry Kip and Veal, 11 to 16 lbs.....	— @ 13	— @ 12
Dry Calf, under 4 lbs.....	— @ 18	— @ 16
Pelts, long wool, 1/2 skin.....	1 00 @ 1 50	
Pelts, medium, 1/2 skin.....	70 @ 80	
Pelts, short wool, 1/2 skin.....	40 @ 65	
Pelts, shearing, 1/2 skin.....	15 @ 30	
Horse Hides, salted, large prime, each.....	2 75	
Horse Hides, salted, medium.....	2 50	
Horse Hides, salted, small.....	2 00	
Horse Hides, dry, large.....	1 75	
Horse Hides, dry, medium.....	1 50	
Horse Hides, dry, small.....	1 25	
Tallow, good quality.....	4 1/2 @ 5	
Tallow, poorer grades.....	3 @ 4	

### Bags and Bagging.

This market is dull throughout at present, there being no noteworthy movement in any description. Prices remain nominally as previously noted.

Bean Bags.....	\$ 4 1/2 @ 5
Fruit Sacks, cotton.....	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/4
Grain Bags, San Quentin, in lots of 2000.....	5 55 @ —
Wool Sacks, 4-lb.....	32 @ —
Wool Sacks, 3 1/2-lb.....	30 @ —

### Poultry.

Market for most kinds of poultry, other than strictly fancy stock, has been inclining against the selling interest the greater part of the current week. Continued free receipts of Eastern poultry, mainly young chickens, operated against the advantageous disposal of ordinary domestic stock. As the Eastern chickens average larger and heavier than the California product, the former are given the preference by retailers and consumers at a little higher range of prices than current on common Leghorns, which constitute the bulk of California offerings. Extra large and fine fowls bring above quotations. At close, the market for chickens was slightly firmer.

Turkeys, dressed, 1 lb.....	22 @ 24
Turkeys, young gobblers, 1 lb.....	19 @ 20
Turkeys, young hens 1 lb.....	18 @ 20
Turkeys, old, 1 lb.....	14 @ 16
Hens, California, 1/2 dozen.....	4 50 @ 5 50
Hens, large.....	5 50 @ 6 50
Roosters, old.....	4 50 @ 5 50
Roosters, young (full-grown).....	4 50 @ 5 50
Fryers.....	4 00 @ 4 50
Broilers, large.....	5 50 @ 6 00
Broilers, small to medium.....	4 00 @ 5 25
Ducks, old, 1/2 dozen.....	5 00 @ 6 00
Ducks, young, 1/2 dozen.....	1 75 @ 2 00
Geese, 1/2 pair.....	2 00 @ 2 25
Goslings, 1/2 pair.....	1 00 @ 1 25
Pigeons, old, 1/2 dozen.....	2 00 @ 2 25
Pigeons, young.....	2 00 @ 2 25



Butter.

Strictly fancy fresh is in light receipt and is meeting with a firm market, but there are accumulations of defective fresh, both creamery and dairy product. Buyers are taking cold storage stock in preference to faulty fresh. There are fairly liberal offerings of held butter, not only of California brands, but of Oregon and Eastern makes.

Creamery, extra, 1b.	29	@30
Creamery, firsts.	26	@27 1/2
Creamery, seconds.	24	@25
Dairy, select.	25	@—
Dairy, firsts.	22	@24
Dairy, seconds.	20	@21
Cold storage.	23	@26
Mixed Store.	17	@19

Cheese.

Market is heavily stocked with flats, other than extra mild new of high-grade, and for the general run of offerings is slow and weak, buyers in most instances refusing to operate in other than a small way, even at concessions. Young Americas are in only fair supply, but not many are required to satisfy the demand at extreme figures ruling.

California, fancy flat, new.	13	@13 1/2
California, good to choice.	11 1/2	@12 1/2
California, "Young Americas"	13 1/2	@14
Eastern.	14	@15 1/2

Eggs.

Prices for fresh have been irregular and on the down grade most of the current week. The high figures lately asked drove most of the trade onto cold storage and Eastern eggs, causing fresh to accumulate. At the lower prices now ruling for fresh, buyers are again taking hold in sufficient quantity to keep the wholesale floors tolerably well cleaned up, but only for most select does the market show any special firmness at the reduced figures established.

California, select, large, white and fresh.	41	@43
California, select, irregular color & size.	32 1/2	@37 1/2
California, good to choice store.	22 1/2	@27 1/2
Eastern.	23	@29

Vegetables.

Market has been quiet in the main, with offerings and demand both of rather moderate volume, and in the matter of quotable values changes have been neither numerous or marked. Choice fresh vegetables were favored in the main with a tolerably firm market, while common qualities dragged at irregular and generally low figures. Movement in Onions was not very brisk, but best qualities were steadily held.

Beans, Lima, 1b.	3 1/2	@ 5
Beans, String, 1b.	2	@ 3 1/2
Cabbage, choice garden, 100 lbs.	60	@—
Cucumbers, 1 large box.	40	@ 65
Egg Plant, 1 box.	35	@ 60
Garlic, 1 lb.	3	@ 4
Onions, Yellow Danver, 1 ctn.	50	@ 75
Okra, Green, 1 small box.	40	@ 65
Peas, Sweet Garden, 1 lb.	3	@ 3 1/2
Peppers, Green Chile, 1 box.	35	@ 60
Peppers, Bell, 1 box.	50	@ 75
Summer Squash, 1 large box.	35	@ 60
Tomatoes, Bay, 1 large box.	30	@ 50

Potatoes.

Prices remained quotably about the same as preceding week, but movement was only moderate and market was not noteworthy for strength, spot supplies being in excess of immediate requirements. In addition to fairly liberal stocks of Sacramento River and Salinas Burbanks, there were increased offerings of Burbank Seedlings from Oregon. Market for Sweets was a little firmer than preceding week, offerings being somewhat lighter.

Sacramento River Burbanks.	\$ 50	@ 80
Salinas Burbanks, 1 cental.	1 00	@ 1 25
Petaluma and Tomales Burbanks.	60	@ 90
Oregon Burbanks.	65	@ 1 00
Sweets.	1 20	@ 1 35

Fresh Fruits.

Apples and Pears are the only noteworthy offerings at present in the deciduous fruit line, with the bulk of stocks fair to good Apples. The demand for Apples has not been very lively, either for shipment or on local account, but for choice to select 4-tier stock there has been a tolerably firm market, while common and defective qualities dragged at low and irregular figures. There is considerable wormy and trashy stock on market which should have been fed to hogs and the interests of all parties concerned would have been better served. Wormy and generally inferior fruit is hard to sell at figures covering freight charges and cost of handling, most buyers refusing to take the same at any price. On the other hand, fancy qualities will command a premium on utmost figures warranted as quotations. Pears sold at generally unchanged rates, but for other than first-class Winter Nelis there was not much inquiry. Common cooking Pears met with little competition from buyers. Table Grapes were in fair request and market was tolerably steady; some of very choice quality sold on shipping orders up to 85c per crate. Persimmons were in moderate receipt, with inquiry rather light, but they were held at about same prices as last quoted. Strawberries and Raspberries

did not make much of a showing and included few of high grade. Cranberries sold at a wide range, with market firm for best.

Apples, fancy, 4-tier box.	\$ 1 25	@ —
Apples, good to choice, 50-box.	65	@ 1 00
Apples, common to fair, 50-box.	25	@ 60
Cranberries, Coo's Bay, 1 box.	2 50	@ 3 00
Cranberries, Eastern, 1 bbl.	10 00	@ 11 00
Grapes, 1 crate.	40	@ 75
Grapes, 1 small box.	25	@ 50
Grapes, 1 large open box.	75	@ 1 50
Nutmeg Melons, 1 box.	40	@ 75
Pears, Winter Nelis, 1 box.	65	@ 1 25
Pears, other varieties, 1 box.	40	@ 75
Persimmons, 1 box.	50	@ 1 00
Pomegranates, 1 small box.	50	@ 75
Raspberries, 1 chest.	4 00	@ 6 00
Strawberries, Longworth, 1 chest.	6 00	@ 10 00
Strawberries, Melinda, 1 chest.	2 50	@ 6 00

Dried Fruits.

As regards transfers from first hands, there has not been much doing the past week, and to have effected free sales of most descriptions the granting of material concessions to buyers would have been necessary. It was the exception, however, where great selling pressure was exerted, most holders preferring to carry rather than accept the low bids made in most instances. The weakness was most pronounced on Peaches and Apples, and the drift of values on Prunes could not be said to be favorable to the selling interest. There was considerable movement in Prunes, largely on October deliveries and of lots previously contracted for. Latest transfers of this fruit have been mainly within range of 2 1/2 @ 2 3/4 for the four sizes, while the large and small sizes, being in comparatively light stock, are commanding a moderate premium on the four-size basis. The Apricot market is moderately firm, especially for choice to select, the proportion of offerings of latter sort being rather light. There is a fair supply of Pears of ordinary quality, but choice to fancy are scarce, and latter sort is being sought after at tolerably stiff figures. Nectarines are in light stock, but prices keep at a rather low range, owing to the abundance and cheapness of Peaches. Market for Pitted Plums continues firm, the output of this fruit the current season having been light. More than are offering could be readily placed to good advantage. Unpitted Plums, however, are in poor favor, most dealers refusing to carry stocks. The Australian steamer sailing Thursday last carried 147,000 pounds dried fruit (largely Prunes), and 145,000 pounds Raisins. A Panama steamer took 278,400 pounds Prunes, mostly for Europe. The steamer Californian, bound for New York, carried 11,000 pounds Prunes. Monday's British Columbia steamer carried 11,000 pounds dried fruit and 52,000 pounds raisins.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4	@ 4 1/2
Apples, extra choice to fancy, 50-lb boxes.	5	@ 5 1/2
Apricots, Moorpark.	8	@ 11
Apricots, Royal, good to choice, 1 lb.	7	@ 8
Apricots, Royal, fancy.	8 1/2	@ 9
Figs, 10-lb box, 1-lb cartons.	55	@ 75
Nectarines, 1 lb.	4	@ 5
Peaches, unpeeled, fair to good.	4 1/2	@ 5
Peaches, unpeeled, choice.	5 1/2	@ 6
Peaches, unpeeled, fancy.	6 1/2	@ 7
Peaches, unpeeled, extra fancy.	7 1/2	@ 8
Peaches, peeled.	10	@ 12 1/2
Pears, halves, fancy.	9	@ 10
Pears, halves, choice.	6 1/2	@ 7 1/2
Pears, halves, fair to good.	5 1/2	@ 6 1/2
Plums, Black, pitted.	5	@ 6
Plums, Red and Yellow.	7	@ 8
Prunes, Silver, good to fancy.	5	@ 7
Prunes, in bags, 4 sizes, 2 1/2 @ 2 3/4; 40-50s, 4 1/2 @ 5; 50-60s, 3 1/2 @ 4; 60-70s, 3 1/4 @ 3 3/4; 70-80s, 2 3/4 @ 3c; 80-90s, 2 1/4 @ 2 1/2; 90-100s, 2 @ 2 1/4; small, — @ c.		

COMMON SUN-DRIED.

Apples, sliced.	3 1/4	@ 3 1/2
Apples, quartered.	3 1/4	@ 3 1/2
Figs, White, in bulk.	3	@ 5
Figs, Black, in sacks, 1 lb.	3	@ 4 1/2

Raisins.

The wholesale market is reported exceedingly quiet, the majority of jobbers appearing to be fairly well stocked through purchases made before the recently revised prices went into effect. Small quantities of outside raisins are said to be selling slightly under Association prices.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5 1/4c. per lb.; 3-crown, 5 1/2c.; 4-crown, 6 1/4c.; Seedless Muscatels, 4 1/4c.; do floated, 4 1/2c.; unbleached Sultanias, 4 1/4c.; Thompson's Seedless, 5 1/2c.; London Layers—2-crown, \$1.25; 3-crown, \$1.35; 4-crown, clusters, \$2.00; 5-crown Dehesas, \$2.50; 6-crown Imperials, \$3.00; Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5 1/2c.; Valencia cured, 4 1/4c.; Pacific do, 3 1/2c.; Oriental do, 2 1/2c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7 1/2c.; 12-oz. packages, fancy, 6 1/2c.; choice, 6c.; in bulk, fancy, 7 1/2c.; choice, 7c.

Citrus Fruits.

Not much doing in the Orange market, and little to operate upon at present. Stocks are mainly Late Valencias and Tangerines, a few of the latter arriving this week. Lemons continue in ample supply, with the demand not very active. Quotable values remain as before, but only for the very best does the market show any firmness. Mexican Limes are selling at unchanged figures, stocks being of fair volume. A few California Limes were offering at 75c @ \$1 per small box.

Oranges, Valencias, 1 box.	\$1 25	@3 00
Lemons, California, select, 1 box.	2 25	@2 50
Lemons, California, good to choice.	1 50	@2 00
Lemons, California, fair to good.	1 00	@1 50
Grape Fruit, 1 box.	1 50	@2 50
Limes, Mexican, 1 box.	4 00	@4 50

Nuts.

Almonds are not now offering in great quantities from first hands and for desirable qualities the market is moderately firm at current values. Recent sales of I X L's to dealers are reported at 10 1/2 @ 10 1/4. The Walnut market remains firm. Most of the crop has been disposed of. The yield was light but the quality of high average. Peanuts now on market are mostly imported product and are being steadily held.

California Almonds, shelled.	15	@18
California Almonds, paper shell.	10	@12
California Almonds, soft shell.	7	@ 8
California Almonds, hard shell.	5	@ 6
California Walnuts, soft shell.	13	@13 1/2
California Walnuts, standard.	11	@12
Chestnuts, California-Italian.	10	@12 1/2
Peanuts, fair to prime.	4 1/2	@ 5 1/2
Peanuts, Eastern, hand-picked.	5 1/2	@ 6 1/2

Wine.

In the way of transfers from first hands, there is little doing in the wine market, which is generally the case at this time of year. Offerings are not especially heavy, and it is the exception where undue pressure to realize is being exerted. Latest reported transfers of dry wines of 1902 vintage have been within range of 15c @ 18c per gallon, as to quality. Shipments for the last week include 108,371 gallons, per Panama steamer, mainly for New York, and 5,250 barrels and 32 cases, per steamer Californian, for New York. Receipts of wine at San Francisco last week were 293,100 gallons, as against 310,000 gallons for preceding week, and for month of October aggregated 1,464,450 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.	130,683	2,277,233
Wheat, ctls.	38,491	784,883
Barley, ctls.	337,725	3,101,116
Oats, ctls.	45,272	521,150
Corn, ctls.	3,090	50,228
Rye, ctls.	1,900	24,768
Beans, sks.	71,345	327,828
Potatoes, sks.	24,448	424,920
Onions, sks.	5,350	75,875
Hay, tons.	2,833	84,798
Wool, bales.	1,884	26,728
Hops, bales.	1,148	17,556

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sk.	156,808	1,497,352
Wheat, ctls.	25,094	327,281
Barley, ctls.	201,093	2,447,944
Oats, ctls.	412	10,049
Corn, ctls.	554	6,515
Beans, sks.	1,006	13,161
Hay, bales.	3,152	64,776
Wool, lbs.	1,358,159	399,869
Hops, lbs.	59,537	286,255
Honey, cases.	477	2,326
Potatoes, pkgs.	3,642	32,355

Convincing Proof of the Efficacy of Anthrax Vaccine in Stopping Losses from Anthrax.

A Reno dairyman who had already lost thirty-five cows from anthrax vaccinated the balance of his herd, 135 head, with Cutter's Anthrax Vaccine (double). Although the animals were left on the same pasture, which was badly infected, there were only two more deaths in the interim between vaccination and the time for the vaccine to take full effect. About ten days after No. 2 vaccine was used, three cows from a distant ranch got into the field through a broken fence, and within three days they (the three strays) died of anthrax. This was two months ago and there has not been a single death among the vaccinated animals.

**SAWS** ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 6 ft. through

1 MAN with a FOLDING SAWING MACHINE BEATS 2 MEN with a Cross-cut Saw 5 to 9 cords daily is the usual average for one man.

NO BACKACHE EASILY CARRIED

Our 1904 Model Machine saws faster, runs easier & will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency. Folding Sawing Mach. Co. 55 N. Jefferson St., Chicago, Ill.

DEWEY, STRONG & CO. PATENT AGENCY

330 MARKET ST. S.F.

**SHARPLES TUBULAR CREAM SEPARATOR**

Buckets, Buckets, A Multitude of Buckets.

Buckets full of radish graters, buckets full of discs, buckets full of vanes, buckets full of blades, buckets full of contraptions. All separators have these "bucket bowls" except just one, the **Tubular**; a distinct type, an improved separator entirely different from all others. Simple, convenient, safe, durable and efficient. Skims closer and requires less power to run than any other separator. Free catalogue No. 131.

THE SHARPLES CO., Chicago, Illinois. P. M. SHARPLES, West Chester, Pa.

**MALTHOID ROOFING**

Made in California where materials are produced. The lowest priced roofing made. Lasts longer than all others. It is weather and water-proof and fire resisting.

Send for booklet.

**The Paraffine Paint Co.** San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

**THE FRESNO SCRAPER.** 3 1/2 - 4 - 5 Foot.

FRESNO AGRICULTURAL WORKS FRESNO, CALIFORNIA.

MASON'S O.K. GATE PATENTED APR. 24-1899 IMPROVED JAN. 12-1903

THE CREAM OF PERFECTION IN THE SELF OPENING GATE LINE

THE LLOYD CO. SOLE AGENTS AND MANUFACTURERS PETALUMA, CAL.

WRITE FOR OUR CATALOGUE

IF YOU WANT a better, more practical, longer lasting, heavier galvanized wire fence, YOU WANT PAGE. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

**WIRE FENCE** HOG CATTLE POULTRY NETTING BARB WIRE

WEST COAST WIRE & IRON WORKS 19 FREMONT ST. SAN FRANCISCO.

**PRACTICAL ORCHARDIST** would like position as Foreman: 15 years' experience in growing and curing deciduous fruits. Best of references.

C. E. BURNS, Fremont St., San Jose.



## THE GARDEN.

### The Vegetable Garden.

Written for the PACIFIC RURAL PRESS by MISS VERA DECOTO, Decoto, Alameda County, Cal.

In anticipation of the fall rains, land will soon be prepared for various ways of bringing in money. Now is the time to start the germ of thought to produce ideas concerning garden economy and gain from the ground available for such purposes.

It is very easy—better than a mine. Any unused place may be planted, and the younger members of the family, when permitted to use their ingenuity, will contribute considerable toward their own support, while becoming healthy and muscular with this frequent gentle exercise, which need not be longer than fifteen minutes at a time.

A small space may be sprinkled by an artificial rain shower. Set the spray in one place until the land floods. Thoroughly soak it all in this way.

When the ground has dried to an easy pulverizing state, plow it or deeply cultivate, leaving it level. Do not sled; keep the soil light.

**A SMALL GARDEN.**—A garden 15 feet square is an abundance. Then with the plow or hoe throw it into ridges—about 14 inches broad on the top and the same width of a ditch. The wide ditch permits of comfortable access to the plants. Hoe it a little. Divide each ridge into two sections by making a cross ditch.

This makes twelve beds 14 inches by 7 feet, with a ditch at each outer edge.

**WHAT TO PLANT.**—1, radishes; 2, lettuce; 3, beets; 4, turnips; 5, spinach in winter, cabbage or cauliflower in their season; 6, parsnips; 7, carrots; 8, celery; 9, cucumbers; 10, artichokes; 11, rhubarb, and 12, onions.

The round varieties seem preferable, except with carrots. The half long are a desirable kind, and the round, golden turnip very satisfactory.

**SUGGESTIONS ON SOWING.**—A very little parsley seed may be scattered and raked in at the end of the rhubarb place for a two-year growth. It should be frequently cut off an inch above the ground.

At any time radish seed may be planted in any of the spare corners, between rows, or along the edges of the ditches.

The onion seed ought to be sown in early November, and may be put about 5 inches apart and left to grow to maturity; or sown more closely to transplant, covered with earth mold, chaff, fine straw or sand, and set out in late February or early March.

Celery seed may be sown the same way, and the plants reset 6 inches apart in rows, or in small, solid squares. When full grown they will make a solid row, and may have protection of sacks or boards put along both sides of the row, or extra soil may be carried into the garden to fill them up. The ground from a ditch will make the sides too steep and deeper the ditch too much to have the water keep fresh and the ground sweet.

If in the pasture lot or near the well outside the house fence, the garden space may be inclosed with posts made of tree branches, and the fence made of old sacks, the sides of boxes from the store, or, better still, with prune trays. Any of these materials will serve as covers for hot beds when needed.

Plants will not frost if covered with straw.

The 10-cent packages of store seed contains three times the quantity of a 5-cent package, and will be plenty for numerous plantings.

The seed should be sown very sparingly to fill only the desired space of each full grown vegetable, and hoed in; then lightly raked. No thinning will be required.

Then let the children take hold, and with their small hoes and a small rake, also a one-gallon bucket, they will make life hum around that patch more happily than bees in clover. Heavy hoeing may be done by the man of the place.

Vegetables are best and more crisp when the crop is pulled out of the mud,

and our model vegetable gardens are kept very moist indeed.

The sprinkler set in one place for five minutes at a time will keep the plants clean and vigorous, and the flow of water will fill the ditches. Otherwise the stream from the hose should be turned onto a tin or board in each ditch until it is full.

Little dams may be made with the hoe at the cross ditch on the lower side of each small garden to keep the water from flowing to the lowest level and away from the place.

Well sprinkled, there will be no insects. The soil can be kept good and fresh with small quantities of ashes at the roots of the cabbage and permanent plants.

Possibly the best paying in winter are mushrooms, which are grown in any dark place or dense shade, in boxes or in the ground, from spawn obtainable on special request to the government, or from the seed growers, who catalogue it at 25 cents a one-pound square.

In the spring time melons may be planted sufficiently close together so the vines pile up and shade the melons.

Other good paying vegetables for spring and summer planting are pumpkins, summer squash, potatoes, corn, popcorn, spring beans, peas, tomatoes, and a permanent asparagus bed in sand soil.

The farmer should plant, also, foods for the farm animals.

Alfalfa, with grain seed mixed to protect the young plants the first year, and surrounded by a low dyke, will prove a source of enjoyment and produce to the cows and chickens if they have their separate patches. Keep the chickens from the cows' portion.

Alfalfa, layered half in half with straw in their fresh season, and well salted, or with corn husks, is a well known and most desirable winter food for horses and all live stock. Bee flowers are also profitable.

**FARMERS' BULLETINS.**—Helpful knowledge may be obtained by reading "The Vegetable Garden," Farmers' Bulletin No. 62, which says: "A good garden will supply half the family's living, and when field crops show a balance on the wrong side it becomes a very important means of support."

These pamphlets are furnished free by the Government, and you can get them in answer to a postal with request sent, as they instruct, "to any Senator, Representative or Delegate in Congress, or the Secretary of Agriculture, Washington, D. C." Samples of seed, with report blanks included, may be had by addressing to Hon. Victor Metcalf, Oakland, Cal. (if you happen to live in his district; otherwise your own Congressman.) The taxpayer should most happily avail himself of such good return for a percentage of the tax money. [It should be stated, however, that a vegetable grower will not long be satisfied with such seeds. He will need the best and latest kinds from the best dealers.]

Additional information may be gained from the following Farmers' Bulletins: "Onion Bulletin," No. 39; "How to Grow Mushrooms," No. 53; "Celery Culture," No. 32; and in these are printed a list of others in which you may be interested with profit.

**CONCLUSIONS.**—Vegetables eaten with oil, and slowly, will beautify and heal the physical being, while soothing and gratifying the eternal want.

The work is delightfully upbuilding and soul poisoning.

Good Father Sun will smile on you and make you glad that you're alive.

A garden this size with an abundance of water and youthful energy will pay much better and yield more than a larger space with less concentrated powers.

This quantity of vegetables will easily supply the daily want between the welcome visits of our happy, healthy, warm-souled vegetable growers who so kindly advised me.

Milford, Mass., Jan. 14, 1902.

Dr. Tuttle:—Having given your liniment a good trial, I find it is the very best article of its kind in existence. My wife sprained her ankle very badly. After using two bottles of Tuttle's Family Elixir was able to be about as usual. I can not say enough for Tuttle's Family Elixir.

T. J. WEBER, 51 West St.

## POOR SEPARATORS MAKE POOR FARMERS!

### DE LAVAL CREAM SEPARATORS

are superior to other Cream Separators

BECAUSE they possess the "Alpha-Disc" and "Split-Wing" improvements which cannot be used by any other manufacturer.

BECAUSE the vastly greater sale of De Laval machines—ten times all other machines combined—together with the protected patents, enables the De Laval makers to produce a perfect Cream Separator, which no competitor could attempt.

Everything the dairyman needs, everything in dairy apparatus and supplies, both for farm and home, carried by us. The largest stock of dairy goods on the Pacific coast constantly on hand.

A De Laval catalogue explaining in detail the facts here set forth may be had for the asking.

**DE LAVAL DAIRY SUPPLY COMPANY,**

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

**BETTER NOT BUY A SEPARATOR AT ALL  
THAN ONE THAT IS WORTH NOTHING!**



### PORTABLE BUILDINGS

No. 46 Another of our 100 stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for illustrated Catalogue, with Prices.

**BURNHAM-STANDEFORD CO.,**  
Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.

San Francisco Office, 40 New Montgomery St.

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

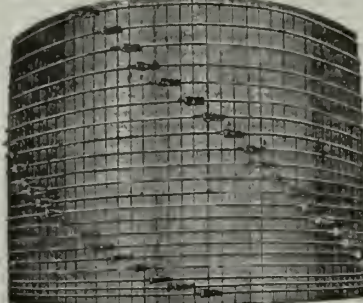
WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

**ALLISON, NEFF & CO.**

## OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**

SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.

**C. A. HOOPER & CO., Agents,**  
204 FRONT STREET, SAN FRANCISCO.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



## THE SUGAR BEET.

### The 1903-04 Beet Sugar Production of the United States.

A preliminary estimate upon the area in sugar beets, the probable production of beet sugar, and the number of factories in the United States for the season 1903-04, as compared with data for 1902-03, has recently been issued by Messrs. Willett & Gray. The following is the estimate by States:

States.	No. factories.	1903-04.		No. factories.	1902-03.	
		Area.	Estimated yield.		Area.	Actual yield.
		Aeres.	Tons of 2,240 lbs.		Aeres.	Tons of 2,240 lbs.
New York	2	7,100	4,700	2	5,000	2,799
Wisconsin	1	5,200	5,000	1	4,200	3,463
Ohio	1	2,500	2,000	1	2,500	1,473
Michigan	22	104,071	74,000	16	89,500	48,848
Minnesota	1	3,300	3,100	1	4,200	3,054
Nebraska	1	10,800	10,500	3	10,950	9,430
Colorado	8	50,700	41,000	5	34,120	34,623
Utah	7	19,000	17,000	6	18,000	16,987
Idaho	1	5,200	6,000			
Oregon	1	1,000	1,200	1	3,000	2,025
Wash. ton.	1	4,000	3,500	1	2,200	1,641
California	7	55,863	62,000	7	65,000	71,120
Totals.	55	271,734	233,000	44	238,670	195,463

The number of beet-sugar factories in operation in the United States has increased from forty-four in 1902-03 to fifty-five in the present season—six of the new factories being credited to Michigan, three to Colorado, one to Utah and one to Idaho. The area given in the estimate is expressed as the area of "good stand," and shows an increase for the present year of upward of 12%. The estimated production of sugar is a preliminary one and may be changed by the weather conditions of October and November, but confidence is expressed that "in any event the yield will show a considerable increase over that of the last crop."

## THE VINEYARD.

### Santa Cruz Mountains Vineyards.

TO THE EDITOR:—That was a great article you copied from the San Jose Mercury, written by Mrs. Josephine McCracken. I know this, although I did not see her name subscribed to it. Dr. E. Goldman never ships any table grapes, he has only a few vines, enough for his own use and that of his city friends. The wine of the Kronberg place, that brought 40 cents a gallon, is made from the Red Vettliner, with some Frunken Riesling and a few Johannisberg in it. The Vittliner is a good grape for the coast, as it bears heavily and resists rot better than any early white wine grape.

Wrights. H. Hoops.

The above was a personal note and not intended for publication, but we hope no offense will be given. The insertion of Dr. Goldman's name was our error and not that of Mrs. McCracken, as we thought it wise to put it in the place of one which we could not clearly make out, and we made a mistake in so doing. The information about the grapes used in the Kronberg wine is interesting.

### All That Is Recommended.

Bileam, Ill., March 2, 1903.  
Gentlemen: I have been using your Kendall's Spavin Cure for horses and find it is all it is recommended to be. I will enclose a two-cent stamp, for which please send me your "Treatise on the Horse and His Diseases," so that I can get full directions for using the Spavin Cure.  
Very truly yours, SANFORD CARYNE.

WANTED.—One or more earloads of Cat Tails, (Flag.) For particulars, call or address Brown & Abraham, 330 Market St., Room 510, San Francisco.

## WARM FEET

The greatest comfort and luxury of modern days; magnetic fire under your feet; the greatest life-protector known; your feet keep warm all the time, even if standing in water, snow and ice. Keeps rheumatism, colds and grippe out. Send for book 25¢, full of information, mailed FREE on request.  
THACHER MAGNETIC SHIELD CO.,  
209 State Street, CHICAGO.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**HOLSTEINS**—Winners over Jerseys of EVERY butter contest at State Fairs for last six years. Aged, 4-yr., 3-yr. and 2-yr.-old classes, except 1st on 2-yr. old in 1895. Last year every butter prize awarded won by my herd, except 2nd for 2-yr. olds, 21 Jerseys and Durhams competing. F. H. Burke, 30 Montgomery St., S. F.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in earload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP AND GOATS.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in Poultry Supplies of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'frs of Pacific Incubator and Brooder. Send for Catalogue.

### FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bul calves from 3 months to 1 year old. Come and see the stock.  
Phone RED 123. J. W. McCORD, Hanford, Cal.

**RED CROSS WIND MILLS**  
ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURN-TABLE. SEND FOR CATALOGUE. MAILED FREE.  
WOODIN & LITTLE,  
312 Market St. San Francisco, Cal.

## LIVE OAK STOCK FARM,

Six Miles N. W. from PETALUMA, on the Petaluma and Sebastopol Road.

**FRANK A. MECHAM, Prop.**

Importer and Breeder of

### Red Polled Cattle.

Color Deep Red. Both Sexes for Sale.

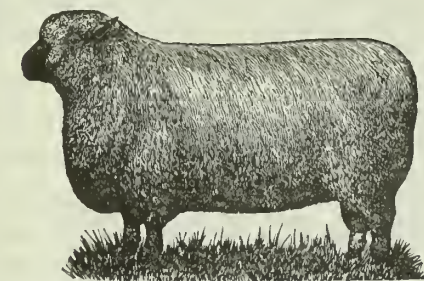
Address all communications PETALUMA, SONOMA CO., CAL.



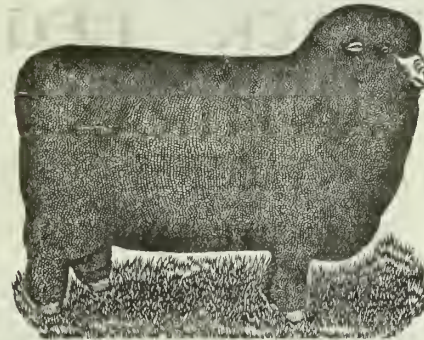
**FRANK A. MECHAM,**

Importer and Breeder of Shropshire Sheep.

They were all imported from England, or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder,**  
Shipping Points: PETALUMA AND SANTA ROSA, SONOMA CO., CAL.

### BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at OHOWOHILLA STOCK FARM.

Address.... ISAAC BIRD, Merced, Cal.

### I have for sale the red-roan bull Kingalier 15th.

BRED BY THE W. H. HOWARD ESTATE.  
He will be three years old in November. I have his pedigree and registration.

W. C. DALLAS, Atwater, Merced Co., Cal.



Single and Double Acting Deep Well Pumps of the highest efficiency.

**STEAM AND GEARED PUMPS** pumping water supply for cities, railroads and factories.

THE DOWNIE PUMP COMPANY, Box 21, Downieville, Pa.

## Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.  
Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Cramping Machine and method of use; also trough feeding, and our special brand of Grenadier Meal: the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.  
THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.

## W. & P. ROOFING.

Best wool felt, thoroughly saturated and coated; elastic, and unaffected by heat or cold; will not rust or drip like metal; unaffected by acid fumes or gases; is not inflammable like shingles. Good for wineries, creameries, factories, warehouses—any place where steam or vapors abound; for roofing and lining dry kilns—will stand heat and insulate perfectly; for dwellings, stables, barns, stock sheds, poultry houses—anything needing protection from sun and rain. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO.,** 113 NEW MONTGOMERY ST., SAN FRANCISCO.

## THE "BOSS" TREE PROTECTOR.

Made of Yucca Palm.

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

### PRICES:

12 inches long,	\$ 9.00	per 1000.
14 "	10.00	" "
16 "	11.50	" "
18 "	12.50	" "
24 "	15.00	" "
30 "	17.50	" "

Agents Wanted Everywhere.

**YUCA MANUFACTURING CO.,**  
450 Santa Fe Avenue, Los Angeles, Cal.

## PATENTS

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

## DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

**PATENT AGENTS,**  
330 Market St., San Francisco, Cal.  
—AND—  
918 F St., Washington, D. C.



## Patrons of Husbandry.

### Tulare Grange.

To THE EDITOR:—Tulare Grange held its regular semi-monthly meeting at its hall on the 24th.

There was present a fair attendance, and the usual nice lunch was spread and enjoyed.

Two applications for the degrees were presented and referred to a committee, who, knowing the applicants, reported favorably.

Bro. T. Jacob of the committee to solicit the Board of Supervisors to offer a bounty for the killing of squirrels offered the following resolutions, which after discussion were approved and carried:

Resolved, That for the suppression of the squirrel nuisance a united effort must be made by every farmer, fruit grower, stockman and land owner. To do this,

Resolved, The dry season being the best to poison the pests, and for the purpose of getting the united action so essential to the end in view, the second Wednesday in November next is hereby declared to be Squirrel Day. All persons on whose land there are squirrels are earnestly requested to spread poison over the same on that day, and the following days that week.

Resolved, All persons complying with this request are further requested to report to Mrs. Bertha Morris, secretary of Tulare Grange, the result of their efforts and the poison used.

Tulare Grange earnestly requests every paper in Tulare county to publish the foregoing.

Worthy Master Styles and Bro. T. Jacob made interesting reports of the proceedings of the State Grange.

The lecturer read a communication from Professor Stubenrauch that he has new varieties of gluten wheat to distribute, in quantities of half a bushel, for experimental tests. Two members present agreed to take the wheat, make the tests, report results and send samples for analysis to Professor Stubenrauch, College of Agriculture, Berkeley.

On motion Sister Dammier was elected lunch room superintendent.

Bros. Styles and Jacob reported their interview with Bro. D. T. Fowler requesting him to name other days for a Farmers' Institute in Tulare than the days he had previously named. In consequence of other appointments the change cannot be made. The Farmers' Institute at Tulare will therefore be held on the 2nd and 3rd of December, forenoon, afternoon and evening sessions.

It was announced that Selma Grange will on December 5th, the Grange's birthday, visit Tulare Grange.

The subject of the day was taken up: "The farmer is a greater benefactor to the community than the manufacturer."

In the discussion, in which nearly all took part, it was argued and admitted that both of these industries are essential to the community, and to each other, but the United States census shows that farming employs more than four times the capital and more than three times the labor manufactures do, therefore it is the greater benefactor to the community.

The subject for next meeting is: "What influence has the Grange in the formation of character?" J. T.

### UNION SCALE CO.

HAS LED FOR 25 YEARS.

The Original

### TRUSS LEVER and U. S. STANDARD,

with double Beam, and DIAMOND STEEL Bearings. Wood or steel frame. We ship on approval and pay the freight for 30 days. We save you MONEY on all kinds of SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, and patent specialties. We are the oldest SCALE manufacturers west of CHICAGO. We made it possible for you to buy at FACTORY PRICES, same as your dealers, and examine goods at your station. KNOW what to buy, and what others pay, by writing.

### UNION SCALE CO.,

(Incorporated in 1881.) Room 3, DES MOINES, IA.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

### New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING OCTOBER 20, 1903.

741,994.—INSULATOR—Anderson & Bebler, Los Angeles, Cal.  
741,873.—STEP LADDER—J. A. Ashley, Yuba City, Cal.  
741,874.—MOWING MACHINE—J. W. Barnes, S. F.  
741,876.—HARVESTER—D. Best, San Leandro, Cal.  
741,877.—WHEEL—D. Best, San Leandro, Cal.  
741,764.—HONEY COMB FRAME—J. W. Brown, Los Angeles, Cal.  
742,003.—TABLE—G. C. Calentine, Tacoma, Wash.  
741,890.—DENTAL DAM—H. Craigie, S. F.  
741,892.—CRUSHING ROLLS—W. G. Dodd, S. F.  
742,029.—WATCH HOLDER—Hohmann & Rosenfeld, San Diego, Cal.  
741,793.—FLOW POINT—T. J. Hubbell, Los Angeles, Cal.  
741,794.—BEET ROOT CUTTER—T. J. Hubbell, Los Angeles, Cal.  
742,118.—OIL BURNER—R. M. Jackson, Los Angeles, Cal.  
742,038.—RANGE FINDER—J. W. Kern, Portland, Or.  
741,680.—STOVE—H. Lang, Oakland, Cal.  
741,806.—LOCK WASHER—W. C. Matteson, Stockton, Cal.  
741,921.—HOPPLE—J. H. Miller, Dora, Or.  
741,925.—CASING—R. S. Oiler, Los Angeles, Cal.  
742,057.—NUT LOCK—Owen & Shaw, Spokane, Wash.  
741,708.—ROLL PAPER PRINTER—A. E. Palmer, S. F.  
741,926.—PUMP—C. L. Parker, Los Angeles, Cal.  
742,062.—BAG MACHINE—Philbrick & Coulter, Portland, Or.  
741,832.—FARM GATE—S. Purvine, Salem, Or.  
741,928.—FRUIT GRADER—C. Rayburn, Lindsay, Cal.  
741,722.—TOOTH BRUSH—Ryder & Reynolds, Redding, Cal.  
741,725.—CONCENTRATOR—E. Schutz, S. F.  
741,731.—LOADING CARS—S. K. Smith, Roslyn, Wash.  
742,078.—HARVESTER—L. Spencer, Island City, Or.  
741,819.—ARTIFICIAL LEG—C. E. Stone, Port Townsend, Wash.  
741,736.—GAS JET HOLDER—E. B. Stoner, Astoria, Or.  
741,850.—ROW LOCK—J. R. Supple, Oakland, Cal.  
742,135.—REFLECTOR—H. H. Taylor, San Jose, Cal.  
741,738.—PROJECTILE—H. E. Thomas, S. F.  
741,740.—COLLAR BUTTON—J. W. Tinch, Los Angeles, Cal.  
741,862.—OIL DISTRIBUTOR—T. F. White, Chino, Cal.  
741,867.—OIL BURNER—G. E. Witt, S. F.

## CUTTER'S BLACK LEG AND ANTHRAX VACCINES.

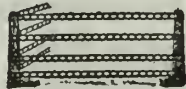
### CALIFORNIA'S FAVORITES.

### The Lowest-Priced Reliable Vaccines.

Cutter's Anthrax Vaccine has been used this season in the worst infected territory in the State, and has not failed in a single instance to check the progress of disease.  
Cutter's Black Leg is the most favorably known vaccine in use in California to-day.  
Write for booklet.

THE CUTTER LABORATORY,  
Rialto Building, San Francisco.

## Truss and Cable Fence



As Compared  
with Woven  
Wire Fences.

The separate strand features make Truss and Cable Fencing much more desirable than woven wire fences.  
Easier and cheaper to put up.  
Easier and cheaper to keep in repair.

Lasts twice as long.  
Nuf sed.

Write for descriptive circular.

Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.

AMERICAN AND FOREIGN  
SCIENTIFIC TRADE MARKS PATENT  
PRESS PATENTS  
CAVEATS AGENCY  
DEWEY, STRONG & CO. 330 MARKET ST.



No Smoke House. Smoke meat with  
KRAUSERS' LIQUID EXTRACT OF SMOKE.  
Made from hickory wood. Gives delicious flavor.  
Cheaper, cleaner than old way. Send for circular.  
E. Krauser & Bro., Milton, Pa.

## THE U. S. AHEAD AS USUAL

At the Valley Fair, Brattleboro, Vt., Sept. 30 and Oct. 1, '03, one of the largest fairs in New England, butter made from cream separated by U. S. Separators received the following premiums:

CREAMERY 1 First, . . . 03 and Sweepstakes.  
TUB, 1 Second, . . . 97 1/4

DAIRY 1 First, . . . 97 1/4  
PRINT, 1 Second, . . . 97 1/4

DAIRY 1 First, . . . 97  
BOX, 1 Second, . . . 96 1/4

DAIRY 1 First, . . . 06 1/2  
TUB, 1 Second, . . . 96

Grand Sweepstakes and all the butter premiums except three went to U. S.

Moral:—Buy the U. S. Separator if you wish to make the best butter.



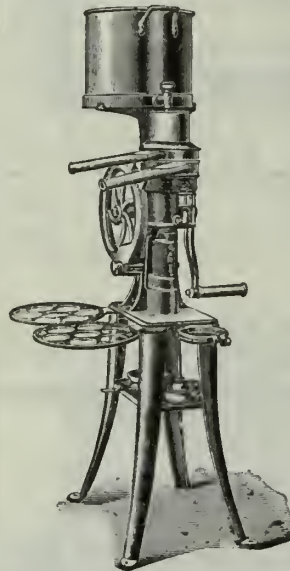
For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Write for catalogues and prices.

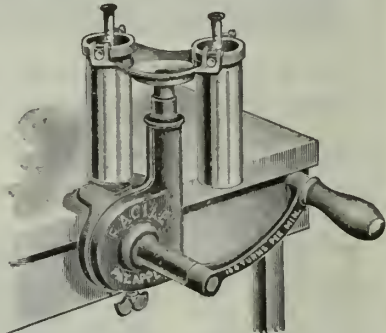
Vermont Farm Machine Co., Bellows Falls, Vt.

## DAIRYING FOR PROFIT

is easily accomplished with **SIMPLEX SEPARATORS** and **FACILE TESTERS.**



Not the  
Cheapest,  
but the  
BEST.



Hundreds now in use on this coast and giving the very best results.  
Agents Everywhere. Send for Catalogues.

**BAKER & HAMILTON,**  
SOLE COAST AGENTS,  
Sacramento, San Francisco, Los Angeles.

## National Wood Pipe Company

MANUFACTURERS OF

## REDWOOD WATER PIPE

From 3-in. to 10-ft. in diameter for

Water Works,  
Mining and  
Irrigation Plants.



CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can be easily taken up and relaid, as it is absolutely indestructible. All pipe sold under an absolute guarantee. We contract for complete irrigation systems. Illustrated catalogue sent on application.

**NATIONAL WOOD PIPE COMPANY,** 6th and Mateo Sts., LOS ANGELES.  
301 Market St., SAN FRANCISCO.

### CHEAP RATES

California, Washington Oregon, Colorado.  
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

Telephone Main 199.

**BLAKE, MOFFITT & TOWNE,**  
DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. Room 14, fourth floor, Mills Building San Francisco. Telephone Bush 348.



### 3-HORSE POWER Webster Gasoline Engine.

RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.  
SEND FOR CATALOGUE.  
**WOODIN & LITTLE,**  
312 Market St. San Francisco, Cal.



### YOUR FEET TROUBLE YOU?

Our booklet on positive relief for Corns, Callouses, Bunions and Chilblains; tender, tired, aching and perspiring feet; cold, clammy and rheumatic feet; flat feet (broken down insteps) and weak ankles.  
Sent FREE for the asking. Write today.  
**CHICAGO SHOE STORE SUPPLY CO., INC.**  
148 FIFTH AVENUE. CHICAGO, ILL.



## Seeds, Plants, Etc.

### ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK, Rocky Ford, Colo.

### FOR SALE.

100,000 Mission Rooted Grape Cuttings,  
30,000 Thompson Seedless Rooted Grape Cuttings,  
3,300 Assorted Peach Trees.

All Healthy and in Excellent Condition.  
For particulars, address E. R. DuBRUTZ, Public Administrator, Tulare Co., Cal.

## TRUE'S NURSERY

WILL BE REMOVED FROM

Forestville to Sebastopol.

Correspondence Solicited.  
Price List will be ready soon.

T. J. TRUE, Sebastopol, Cal.

## Bargain in Citrus Trees.

We have for sale several thousand fine orange trees—leading sorts—for sale at special rates if taken before Dec. 1st. Headquarters for trees on trifoliata or frost resistant root.

### WAGNER'S NURSERY,

Tel. Res. Suh. 108.

PASADENA, CAL.

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries  
SPECIALTIES.

These Dewberries have produced over 5 tons of fruit on 1/2 acre. For descriptive list, address

W. J. EMBREE,

Rural Box 61. El Monte, Los Angeles Co., Cal.

## GINSENG.

Cultivate Ginseng and get rich; sells for \$8.00 per lb.—1/4 acre yields in five years 2083 lbs. dried root, selling for \$16,664.00. Plant seed now. Package seeds and instructions on cultivation, \$1.00.

JOHN FAGAN, St. Joseph, Mich.

## COX

SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

## BULBS

Now is the time to plant

HYACINTHS, TULIPS, NARCISSUS,  
SPANISH IRIS, RANUNCULUS,  
ANEMONE, ETC.

Send for our Bulb Catalogue.

## "Stowe's RED LABEL"

Squirrel Poison

WILL KILL YOUR SQUIRRELS.

Satisfaction Guaranteed.

Prepared by C. A. STOWE, STOCKTON, CAL.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages, illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000

### FANCHER CREEK NURSERIES Inc.

GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 19

FRESNO, CAL.

## LARGEST CITRUS NURSERIES IN THE WORLD

Trees True to Name; Standard Varieties; Catalogue Free.

R. M. TEAGUE SAN DIMAS CITRUS NURSERIES San Dimas, Cal.



ONE OF OUR 100,000 BLOCKS OF CITRUS NURSERY TREES

## TREES.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

APPLE,  
CHERRY,  
PEACH,

PLUM,  
PRUNE,  
APRICOT.

## BULBS

FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

### TRUMBULL & BEEBE,

Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.

## OREGON NURSERY CO.

SOLE PROPRIETORS AND INTRODUCERS OF  
**BURBANK'S NEW PLUM-MAYNARD**

**THE GREAT FROST-RESISTING  
TILTON APRICOT**

Also the most complete line of Deciduous Fruit, Shade and Ornamental Trees, Shrubs, Plants, etc., on the Pacific Coast. See our Traveling Salesman, or write for complete catalogue and price-list. Address

**SALEM OREGON**

No. 6—12th Street.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

### CONTENTS.

#### Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

#### Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—

## GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

A MANUAL OF PRACTICE WITH AND WITHOUT IRRIGATION. THE BOOK COMPLETELY COVERS ITS FIELD. A FULL ILLUSTRATED CHAPTER EACH ON

Vegetable Growing in California.  
Farmers' Gardens in California  
California Climate as Related to  
Vegetable Growing.  
Vegetable Soils of California.  
Garden Irrigation  
Garden Drainage in California.  
Cultivation  
Fertilization.  
Garden Location and Arrangement.  
The Planting Season.  
Propagation.  
Asparagus.

Artichokes.  
Beans.  
Beet.  
Cabbage Family.  
Carrot, Parsnip, and Salsify.  
Celery.  
Chicory.  
Corn.  
Cucumber.  
Egg Plant.  
Lettuce.  
Melons.  
Onion Family.  
Peas.

Peppers.  
Potatoes.  
Radishes.  
Rhubarb.  
Spinach.  
Squashes.  
Tomato.  
Turnip.  
Vegetable Sundries.  
Vegetables for Canning and Drying  
Seed Sowing in California.  
Garden Protection.  
Weeds in California.

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

## CHICO NURSERY Co. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS,

BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get

swamped with work next spring?

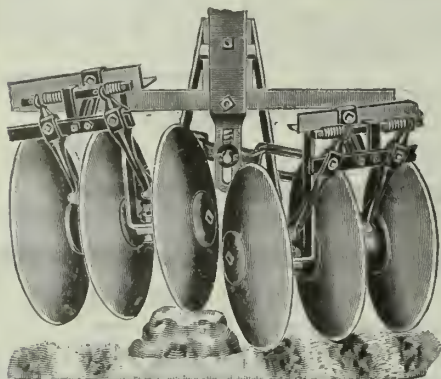
CHICO NURSERY CO., 1200--3rd St. Chico, Cal.

BUY  
STURDY  
CHICO  
TREES.



## DEERE Model B DISC HARROWS.

By means of the spring pressure, almost unlimited flexibility is secured, as shown in small cut below. Each gang is operated by a separate lever, making it easily handled, and also allowing the gangs to be run at different angles, which is often desirable on a side hill or when overlapping. Flexible scrapers, with a spring to EACH SCRAPER, are supplied with all Deere Disc Harrows.



Showing flexibility of gangs—one passing over obstruction, while the other remains at work.

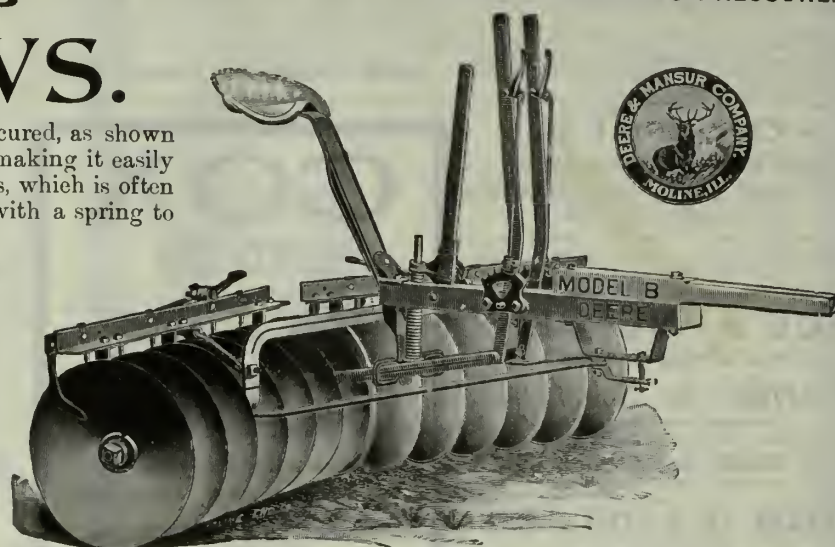
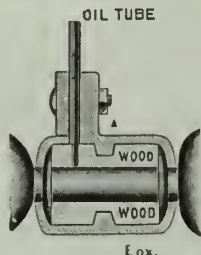
THE STEEL SHANKS prevent the frequent breakages due to the use of those made of cast iron.

Our  
**Disc Harrow  
LINE**  
is complete.

Write at once and secure the agency.

### Our Model F

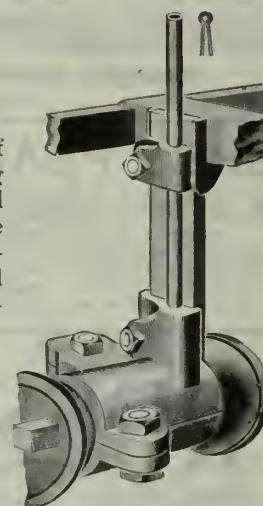
is made especially for our California Orchards and Vineyards and is a Trade Winner. Send for special circular on this harrow.



SPRING PRESSURE.



THE BEARING BOXES are as near dust-proof as it is possible to make them, and have bearing surfaces of wood soaked in oil, which, after several years of hard usage, have proven to be much more durable than iron—in fact, are practically indestructible. Each box is provided with a long oil tube, closed at the top with a spring cotter, insuring a free vent at all times.



The Steel Shank and Oil Tube.

**Deere Implement Company,**  
**SAN FRANCISCO, CAL.**

(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

## Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

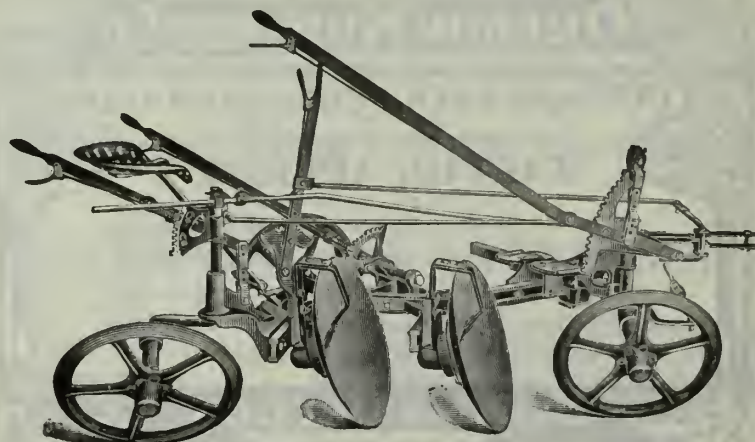
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

If the draft is *one horse lighter* than on any other?

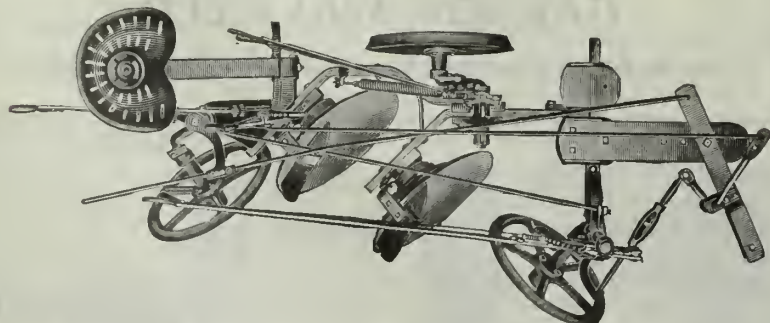
If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

**HOOKE & CO.**

16-18 DRUM ST., SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

## CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 40.

SAN FRANCISCO, SATURDAY, NOVEMBER 14, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### California's Salt Resources.

Questions recently asked us about the local supplies of salt in connection with projects for pork packing on a large scale suggest the interest which many readers may have in the same line of discussion. California has always been short on pork and pork products and is a regular importer thereof to the value of several millions. Though local packing is constantly increasing and the output creditable, vastly more can be



product occurs in vast quantities awaiting the industrial development which will employ it.

The connection between the needed development of pork products and the present salt supply is suggested by the assembled picture on this page, which represents one of Mr. Thomas Waites' premium Berkshires overlooking the great salt gathering at Salton, on the Colorado desert, and lamenting the fact, no doubt, that California farmers do not multiply his race sufficiently to turn all this salt to good account.

This reflection should commend itself to our capitalists and provision manufacturers. California farmers know that they have decided advantages in climate, in food supplies and situation to multiply the pork product; but they know also that it is not safe to do

### The Financial Condition.

Calamity howlers have been lifting their dismal voices of late and as a result the timid have shown some signs of depression. The Orange Judd Farmer has an encouraging view of the situation which is worthy of attention. It claims that the present signs of unsettled affairs are due to financial readjustments. All who have been loaded down with speculative stocks have lost heavily, many good securities have declined 25% to 75% in the market, a few banks and many other concerns have failed, the railroads are discharging thousands of men. Does it mean ruin? No; it means good times. It means that the promoter has had his day, and that other lines of business are getting down to the solid basis of

done both to supply local needs and to be used in the future export trade from this port which all commercial prophets agree will be immense, rivaling, if not exceeding, that of any port in the United States as years roll by. The supply of pork and pork products for American export, and the supply for the non-producing regions of the country besides, naturally comes from the Indian corn States. California is not an Indian corn State, though some districts produce it to the last degree of volume and excellence, but there are other cereals, like Egyptian corn, Kaffir corn and the like, which are a good substitute for maize for fattening, and our growth of alfalfa gives exceptional advantages in bringing growth up to the fattening point. For these reasons California should not neglect her undeveloped resources in setting forth great packing interests.

But the leading question in this connection is not the growth of the hog, but the preservation of it and, therefore, the salt resources of the State are important. They are ample and widely distributed. Considerable enterprises have thriven for decades adjacent to salt water, but such sources of salt are not the largest in the country at large nor are they greatest in California. Salt water from deep wells is the source of the chief commercial supplies of salt in the Eastern and Central States and salt evaporating by sun and steam are carried on. On this coast this difference prevails: Whatever supplies of salt may be below, are of slight moment, so long as such vast volumes of salt occur at or near the surface—salt naturally occurring as such and not needing evaporation by man because evaporation has been done in ages past by creative agencies. Prehistoric lakes have done salt making on a scale which puts all modern salt making enterprises to shame and their



Gathering up Salt in the Salton Basin in the Colorado Desert of California.

so until the packing and commercial branches are better advanced than they are at present. When this is reached, then the well-fed, open-air hog of California will stand some chance to do his best for American supremacy in the markets of the world.

The association of the pictures will serve as a diagrammatic illustration of the relative areas of the pork growing and the salt supply of California. Small is the pig and great is the salt; local prosperity and comfort require that they should be nearer alike in volume.

The salt picture gives only a glimpse at the mineral which is to be gathered up. Its area varies according to the reach of the waters of the Colorado river, which at times breaks over its barriers and deposits the salt in the low places of the Coahuila valley, which is 90 miles long and from 10 to 30 miles wide, has a specially depressed area of 1600 square miles, and is at its greatest depth 275 feet below sea level. At one point in this area salt has been found in abundance nearly 95% pure and the deposit is being regularly worked, as the engraving shows.

management and prosperity upon which agriculture now rests so firmly. Good times—not boom times, not “rushing” times—will prevail, after the readjustment referred to, because:

1. Agriculture is prosperous. Farmers are out of debt more than ever before. And the world must be fed.

2. The same is true of railroads and most lines of legitimate business, outside of speculative enterprises and trust formations.

3. The supply of money in the United States was never so large as to-day, and never so good. Our stock of good money is \$1,300,000,000, double that of England. In five years it has increased nearly \$400,000,000 with us, or as much as the gain in all Europe, with five times our population.

These points will be good to meet the claims of the croakers that a few troubles foreshadow a general disaster. The legitimate producing and commercial interests are in good shape and there is plenty of money to work with—serious troubles do not come upon such a foundation.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

**TWO DOLLARS PER YEAR IN ADVANCE.**

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON Horticultural Editor

SAN FRANCISCO, NOVEMBER 14, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Gathering Up Salt in the Salton Basin in the Colorado Desert of California, 305.  
EDITORIAL.—California's Salt Resources, 305. The Week, 306.  
QUERIES AND REPLIES.—Grapes, Dates and Goats, 306. Asparagus Growing and Canning; To Improve Alfalfa—Grass for a Swale; The Doubtful Artichoke; Construction of Stable Floors; Poisoning Coyotes, 307.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Nov. 9, 1903; Temperature and Rainfall, 307.  
SHEEP AND WOOL.—The Coming Sheep From This Coast; Angoras at High Tide, 308.  
THE IRRIGATOR.—Irrigation and Fertilizers, 308.  
THE POULTRY YARD.—The Turkey Outlook at the East, 308.  
TRACK AND FARM.—The Wind Shield and Its Aid; Selecting Mules for General Use, 309.  
THE FIELD.—Beet Culture in Arizona, 309.  
THE VETERINARIAN.—Causes and Treatment of Alfalfa Bloat, 310.  
THE SUGAR BEET.—The Uses of Beet Sugar, 310.  
AGRICULTURAL REVIEW.—311.  
THE HOME CIRCLE.—What's Wrong With Sammy Brown? The Last of Nina's Lovers; The Butt-Em-Over People; The Yawn, 312.  
The Two Ships; Much Virtue in an Onion; Out of Plutarch; Yankee Sardines; Hints to Housekeepers, 313.  
THE MARKETS.—Produce Market; Fruit Markets, 314.  
THE VINEYARD.—The Government Work in California, 316.  
THE APIARY.—Good Yield of Honey, 316.  
FLORIST AND GARDENER.—More About Mountain Garden, 317.  
PATRONS OF HUSBANDRY.—Tulare Grange, 318.  
MISCELLANEOUS.—New Patents; Notices of Recent Patents, 318.

## The Week.

Rains have fallen again over a considerable area of the State and in the favored portions the grass is growing. Plows are starting wherever possible and the busy season which we anticipated a week ago is being realized—in spots, the usual way for California's rainy season. The skies have an unsettled look and one can find warrant in them to expect whatever he wants. In no other way could so many people be pleased and encouraged.

The chief world topic of the week is the revolution in Colombia, by which the new republic of Panama finds birth, with Uncle Sam as sponsor. Uncle Sam has always believed in people having their rights, and the fact that he will use the local political upheaval to cast the obstructions out of his canal does not seem offensive to the nations. To this side of the world it seems a very fortunate coincidence, even if the meeting of events were according to schedule, because what this coast wishes is a hole through Central America somewhere, and an open door to Atlantic waters. The probability is that, even if some rights should be traversed, it would not be hard to demonstrate that the predominant interest of the United States will not hurt the people so much as they would hurt each other if our interest had not intervened. For this reason we are disposed to look rather complacently for the quick realization of the isthmian canal as the outcome of the matter.

Business in the cereal markets has not been brisk this week, but up to about the average of several months past. Spot wheat is being held fairly steady, despite an easy tone in Eastern and foreign centers. Futures have receded about 1½¢ per cental since last report. There were four clearances of wheat and barley cargoes, all for England, the wheat aggregating a little less than 2400 tons and the barley slightly in excess of 8300 tons, the combined value nearly \$290,000. Barley futures have dropped slightly, but spot stock is not selling at any material decline, and there are no large quantities soliciting buyers at any figure. Oats are in good request and market firm, although not quotably higher. Minor cereals are quiet and without noteworthy change in prices. Beans are not meeting with much inquiry and growers are waiting rather than unload on speculative operators looking for big bargains. Bran is arriving more freely from the North and prices are tending downward. Other millfeeds are not in heavy stock.

Choice wheat hay is not plentiful and is being firmly held. Alfalfa is in good supply, and there is no immediate scarcity of common oat and barley hay. Former prices continue in force on beef. Mutton is higher; hogs are lower, but steady at decline. Butter market is higher for best fresh, but for other grades is without special improvement. Cheese market is weak for other than fancy mild new. Fresh eggs of highest grade are ruling a little higher, but market for held stock is only steady. A firm market has been experienced for large and fat young poultry. Not many Eastern turkeys are expected Thanksgiving week, and the California birds should bring good figures. Potatoes move slowly and prices are unimproved. Values for best onions are tending upward. Apples are selling at a wide range, mostly at 75 cents to \$1.25 per box for good to select, with fancy Spitzenberg held as high as \$2.25; seriously defective have no fixed value. Winter Nelis pears are doing better, choice being quotable up to \$1.50. Grape market is firmer for desirable shipping stock; receipts are showing pronounced decrease. New crop oranges are beginning to arrive in wholesale fashion. While there is not much immediate business in dried fruits, the outward movement on back orders is of large proportions, especially of prunes. Close to 1500 tons, the major part prunes, went outward by sea the current week, destined principally for continental Europe. Two steamers took an aggregate of 1250 tons prunes. Foreign buyers evidently appreciate the fact that this fruit at present prices is a decided bargain. Market for almonds and walnuts shows generally healthy condition, there being no heavy offerings and not much pressure to realize. Honey movement outward continues of fair proportions; a clearance of 400 cases was made per steamer this week for New York. Hops are firm or weak, owing to whether you wish to buy or sell. Wool is moving outward, but not much trading locally; a steamer took 93,000 pounds for New York; dealers here are so pessimistic in their views, as publicly expressed, that it would not be surprising to see some outside buyers stepping into the field.

The fine weather is allowing grape shippers to reach the limit and they are rounding out the season's overland fruit record handsomely. Statistics from Sacramento show that up to November 7, 1902, 1033 carloads had been shipped; up to November 7th this season 1750, an increase of 717 carloads. On the whole, this summer's long-distance shipping seems to have shown unusually good phases. The Sacramento Union is quite disposed to rejoice over it and says: "The method of distribution is not yet perfect by any means, but those having the matter in hand are on the right track. By co-operation and single purpose of management, waste in shipment has been reduced to a minimum. There has been a decrease in expense of handling in every detail, from telegraphic tolls to salaries of Eastern agents. No longer does the fruit from one California orchard enter into cut-throat competition with the fruit from the orchard next to it; fruit gluts at one point and fruit famines at another have practically been done away with—and, above all, the market has been extended into hitherto untried territory. All this is earnest that the day is at hand when California will have as good success in selling her fruit as she has in growing it. It is, too, encouragement to plant new orchards and improve the old, for when all that is possible of the Eastern fruit market has been realized, California will have long realized her inability to supply the demand." We indulge in this quotation because of the direct pertinence of the statements; also because it enforces a point we were trying recently to make against the prophets of evil who find the horizon of California lying along their own line fences and try to discourage others from fruit planting while they continue the indulgence therein for themselves. California fruit growing is not a very old industry, but some people in it are becoming superannuated.

The total deciduous fruit shipments for the year are now considerably in advance of last year's record. The shipments to November 7 this season amounted to 7370 carloads, as compared to 7029 carloads to same date in 1902. The vegetable shipments which have begun this month are also promising. In the two items of celery and cauliflower, which have just begun to move, it is expected that the winter

movement will reach 1200 cars of the former and 500 of the latter. The new citrus year is also beginning and is expected to show a total considerably in advance of last year. California statistics are nearly all encouraging, about these days.

Recurring to the subject of sorghum varieties like Egyptian corn and Kafir corn as a substitute for maize in pig feeding, as mentioned on the first page of this issue, it is interesting to add that the Press of Imperial, San Diego county, where immense areas of desert land are being reclaimed by irrigation from the Colorado river, speaks of a contract made in that valley to grow Egyptian corn for 25 cents which resulted in profit enough to pay the cost of the land. The actual cost of this corn there is said to be about 10 or 12 cents a bushel, probably, and it is equal to Indian corn as cattle feed. But in the Middle West cattle feeders figure on paying 50 cents a bushel for corn, and expect to make money out of cattle with feed at that figure. There ought to be great profit in beef with home-grown corn at 10 cents, if in the Middle West the feeders can afford to pay 50 cents. We did not suppose that Egyptian corn could be grown at any such figure, but its chief requirements are heat and water and the Imperial country has enough of both to do almost anything. Still we should be surprised to hear that even such a country was not using Eastern pork products.

The wide disposition of distant capital to seek investment in California is shown again in the announcement that a Kansas company has decided to go into the creamery business in Humboldt county and to establish a plant at Ferndale, with sufficient capacity to handle the entire product of the county. Humboldt county was selected for operations because of its excellent facilities for the dairy business.

## QUERIES AND REPLIES.

### Grapes, Dates and Goats.

TO THE EDITOR:—Would you advise the use of resistant vines here? It seems that in many parts of the State it is impossible to grow a vineyard except on resistant roots. The climate here (Colorado desert-Imperial Settlements) is dry. It rains about once or twice in a year, but there is plenty of water for irrigation. There is no fog, and very seldom any dew. The soil in many places is a very fine sandy soil, but contains no sharp or coarse sand, and when very wet is almost quicksand. In other places it is heavier, but contains considerable grit mixed with silt. How many varieties of seedless grapes are there and what are their characteristics, size of fruit, color, yield, size and appearance of the bunches? Where can I obtain dates of the "Rhars" or "Deglet Noor" varieties? I want the seeds for planting, but do not know of any dealer to whom I can send. Would the Angora goat do well here?—H. C., Calexico.

We should not undertake to start with resistant stocks in your district, except perhaps to put in a few to see how they grow in case you need the facts later. The soils you mention are among those least favorable for the phylloxera and in which its spread will be very slow, even if your soil temperature suits it, which is a question. At all events, you are far away from the phylloxera now to make it necessary only to be sure that the cuttings which you use to start your vineyard come from a region where the insect does not exist. You can undoubtedly get them from Palm Springs or Indio and be safe. The seedless grapes commonly known are the Sultana, Thompson Seedless and the White and Black Corinth. The last two have not become popular, though introduced decades ago. The first two are the ones to try. They are both strong growing vines needing long pruning and producing very large quantities of white (or light yellow) grapes of small size, thin skin, delicious flavor, suitable for table, for raisins and for wine. The bunches are long and loose. The dates you mention are those commended by Dr. Swingle, of the United States Department of Agriculture, and are most likely to succeed in your district. We believe that seed dates were introduced by the Department and will be included in the offering of seeds by the University of California, which will be announced about December 1. Rhars dates are now being marketed from Arizona. You can get information from Prof. A. J. McClatchie, of Phoenix.

We cannot tell just how the Angora goat would do



in your country, but the fact that they do well in Nevada is presumptive evidence of their success with you. They should certainly be given trial.

### Asparagus Growing and Canning.

TO THE EDITOR:—Have you published any work or book on the canning of vegetables, especially asparagus, or do you know where I could get such a book? It is my idea to grow and can asparagus, and while I have a general knowledge of the canning of tomatoes, corn, peas and beans, etc., and the machinery used for these lines, I am unfamiliar with the canning of asparagus. Inasmuch as some of the largest and best asparagus canneries are located in California it occurred to me that perhaps you could give me some information on this point, that is, the kind of special machinery used, where obtained and the process for canning "white" or bleached asparagus. I have a text book which touches on canning asparagus, but it is some time since it was published, and I am looking for the latest information.—READER, Canada.

We cannot give you a satisfactory reference to a book on canning vegetables. There was a publication on canning made at Philadelphia ten or fifteen years ago, but this would be worthless now on account of changes of processes and machinery. So far as we know, recent works only relate to common culinary methods and not to factory processes. It would be hard to make a book on the latter subject which would be worth making—first, because large canners do not care to have their processes printed; second, the number of people desiring such a work would be too small to warrant expenditure by the publisher. Before undertaking investment in such an enterprise you should either visit the large canning establishments or secure some expert who may give you advice as to buildings, machinery and processes. We presume there are such parties in the State who have had connection with canners.

The white asparagus is grown in a very deep, light soil composed largely of decomposed rushes coupled with some sediment deposited by the rivers. In this soil the plants are set about 10 inches below the surface and then as growth starts the soil is ridged over them several inches more. The lightness of the soil does not interfere with the growth of the shoots and they naturally attain great length before reaching the light. All this growth is white, and the cutting is done with long knives which reach pretty well down to the rooting. We do not believe that asparagus of this character could be grown except on soils singularly adapted to it, and it is rather more than a matter of natural adaptation than of method on the part of the grower.

At present there seems to be some uncertainty about the outlook for asparagus in California. Some large growers have told us that inasmuch as the special investigation for a cure has not yet demonstrated the discovery of such, people should be warned against planting the crop—at the same time we hear that those who are most concerned about other people's losing money are planting more asparagus themselves. It is probably safe advice that those who do not know about the rust and other asparagus puzzles should not plant the crop, and that is safe advice to people who do not know with reference to any other planting. People who do not know should go slow on any kind of agriculture. It is an interesting fact in this connection that Chinamen who have had much to do with the plant when attacked by the rust are now making five-year leases of land which suits the plant. When one of them was asked if he was not afraid of the rust, he smiled blandly and replied: "Me no flaid; me cathee glass alle lite." Those who know are planting; those who do not know had better stay out.

### To Improve Alfalfa—Grass for a Swale.

TO THE EDITOR:—I have some river bottom land that is partly in alfalfa which is too thin on the ground. I thought I would disk it well and sow on some more seed this fall after it rains. What would be the result? There is a small slough running through it; the water stands in this three or four days after the overflow and kills out the alfalfa. Would English rye grass grow in there and what time would you sow it—fall or spring—or would orchard grass or red top do better?—W. L. C., Ceres.

Disking has an excellent effect on alfalfa, and the amount of root crowns injured is insignificant compared with the better growth which comes from disintegrating and aerating the surface soil. The disking should be done while the surface is rather dry,

and, if the field has been fed down closely, it is a good time to do it now and scatter the seed in advance of the rain, so that it will be ready to start at once. If the alfalfa has too much growth on it for disking now, you can catch a time for it later, being sure that the surface is dry enough to pulverize well. Rye grass will do well on the swale, so will orchard grass; the former has been more widely proven to be good. Grass should be sown as soon as possible, so as to have as much of the rainy season as possible for deep rooting. Where the ground is subject to long overflow, the seed should be sown soon after this period. A few days' submergence does not hurt it at all.

### The Doubtful Artichoke.

TO THE EDITOR:—Can you tell me anything about the kind of soil, climate, etc., necessary for the growth of Jerusalem artichokes? What is the average yield per acre? Where can I obtain seed sufficient to plant (say) ten acres, if I should desire to do so? How long does it take for them to mature? I have heard that if a place is once planted with them it is hard to get rid of them. Is that true?—FARMER, Santa Rosa.

Jerusalem artichokes are for some reason or other a disappointment, except as they are grown as a garden vegetable by those who like them. Every few years there come glowing descriptions of their usefulness and permanent availability as food for hogs, the claim also being that ground once planted with them is permanently productive. The University has grown and distributed the tubers in small quantities for a great many years, and the result as shown by correspondence with growers is that they never prove as valuable as anticipated. The great hopes based on them are never realized, although for the first year or two growers are inclined to be favorably impressed. The same person does not grow them long. On the basis of this wide observation we never recommend any one to put in more than a few for the purpose of demonstrating for his own satisfaction what they amount to. Experience in California seems to be like that in the East. The plant is periodically boomed and yet has never demonstrated itself to be of any great value for stock purposes.

### Construction of Stable Floors.

TO THE EDITOR:—I wish to concrete the stalls and floor of my horse stable so as to save all manure and also to aid in keeping the stable clean. The manure pit is down hill from the stable and I plan to put in a tile drain to carry off all liquid matter to the pit. Is there any objection to concreting the stalls themselves if horses are well bedded at night? Is there danger that horses might fall on a concrete floor and injure themselves? Can you tell me of any book or report that discusses this subject and would give suggestions as to best arrangement of stable for obtaining the objects above mentioned?—R. C. A., San Diego county.

The experience of horsemen is against the use of concrete or cement in the stalls; that is, the animals should not be compelled to stand upon such an unyielding material. In the specifications of good stables which we happen to remember, the stall floors are made of wood tightly laid. These floors overhang a gutter of cement and discharge into it. All the passage way has been made of either cement, finished rough on the surface, or of asphaltum or of hard bricks set on edge. It seems, then, that experience favors a combination of wood and some harder material; the former in the stalls, the latter in the gutter and the space back of it. There is no danger of horses falling provided the cement surface is roughened or ridged before setting. The use of bricks on edge is also to prevent slipping and also give a tight floor. We can supply an Eastern book for \$1 entitled "Barn Plans and Outbuildings." It would furnish you useful suggestions.

### Poisoning Coyotes.

TO THE EDITOR:—Will you tell me how I can get rid of coyotes? They are very numerous here; they come and take my chickens in daylight. We do not like to keep a gun in the house, and if you can tell us some way to kill them without a gun (and I doubt if I could kill them with one), I will be deeply obliged.—SUBSCRIBER, Sacramento county.

Poisoning coyotes is pronounced feasible by those who take pains enough to succeed. One method is this: Get a carcass of an old horse, cow, hog, or in fact any animal that is worth less than a few coyotes, hitch a team to the same and drag over the ground, for, say, a mile or two, over country infested by the

coyotes. This in order to make a trail. Then take a sharp-pointed knife, cut slits 3 inches in length through hide and into flesh, insert a dose of crystallized strychnine the size of a large pea, and press the slit together so that the poison is well covered, or imbedded rather, in the tissues of the flesh. You can in this way charge the carcass wherever flesh for a good mouthful can be found. Another method capable of use on smaller range is this: Cut liver in small chunks, handling it with a stick or old meat forks; insert strychnine in each piece; dip the pieces in gall, and they are ready to sow. To be successful, remember, do not handle the bait with your hands, and, when you distribute it, go on horseback, trailing behind you a piece of fresh meat or entrails. Of course, in both these methods the dogs of the neighborhood must look out for themselves.

## WEATHER AND CROPS.

### Report of the U. S. Weather Service for Week Ending November 9, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

#### Sacramento Valley.

Cool weather prevailed during the week. Rain fell in all sections on the 4th and 7th, in some places amounting to over 1 inch. The rain damaged raisins and late grapes to some extent, but otherwise was very beneficial in starting grass and softening the soil. There was a light hailstorm at Rosewood on the 4th. Orange harvest has commenced in the Oroville district and shipments are in progress; the crop is reported good. Late grapes are still being shipped from Sacramento. The deciduous fruit crop is all gathered and under cover. Many farmers have commenced plowing and seeding since the rain. Cattle are in fair condition.

#### Coast and Bay Sections.

The weather was cool and partly cloudy during the week. Rain fell in nearly all sections, and in some places the precipitation was sufficient to start grass and soften the soil for plowing; crops were not damaged, everything except late grapes and apples being under cover. There was a light frost in some sections this (Monday) morning. Farmers are engaged in plowing and seeding in many places, but more rain is needed before the work becomes general. Feed is scarce, but will undoubtedly become plentiful very soon. Stock are in fair condition.

#### San Joaquin Valley.

Partly cloudy weather prevailed during the past week, with showers in the northern portion Wednesday and Saturday and in the southern portion Saturday. The rain was very beneficial, but in some sections not enough to start plowing. The third crop of raisins is in the sweat boxes, and the curing season practically over. Some late grapes are being shipped, but most of them are going to the wineries. Olives are beginning to color, and the prospects are good for a fair crop. Orange picking and shipping continue. Summer crops are being harvested with good results. Plowing and seeding are progressing. Pasturage is scarce, but stock are healthy and doing well.

#### Southern California.

Warm and generally clear weather prevailed during the week, with heavy fogs in the coast districts. Raisin making is mostly completed and most of the crop is under shelter. With the exception of prunes and apples the deciduous fruit crop is all gathered and under cover. Wine making is nearing completion. Walnut harvest continues; the yield is reported good in Ventura county and light in other sections, but the nuts are of excellent quality. Oranges are in excellent condition, but are coloring rather slowly in some districts; a large crop is probable. Plowing is progressing in a few places.

EUREKA SUMMARY.—Rains were of inestimable value to growing crops and grass. Fall plowing and seeding are progressing rapidly, an unusually large acreage being sown to grain. Condition of stock is much improved.

LOS ANGELES SUMMARY.—Dry plowing and seeding begun; no rain, although threatening Saturday. Crops are practically out of the way, and rain would be welcome. First frost Monday morning; light and caused no damage.

### Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 11, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka.....	1.26	6.20	9.05	7.08	64	38
Red Bluff.....	.70	1.94	9.04	3.09	64	38
Sacramento.....	.20	.70	3.31	2.21	70	36
San Francisco.....	.06	.72	3.28	2.56	66	48
Fresno.....	.08	.08	2.43	1.27	74	34
Independence.....	.00	T	.39	.74	74	32
San Luis Obispo.....	.04	.06	3.20	2.84	78	46
Los Angeles.....	.00	.43	2.38	1.32	78	44
San Diego.....	.00	.06	1.37	.84	68	52
Yuma.....	.00	.62	.51	1.04	86	44



## SHEEP AND WOOL.

### The Coming Sheep From This Coast.

Prof. Thomas Shaw, the well-known live stock writer, holds that the great sheep of the future will come from the upper part of this coast, all the way from California to Alaska. The way he reaches this conclusion, in an article in the American Sheep Breeder, is interesting.

#### THE EAST TO WEST MOVEMENT WILL BE REVERSED.

—During all the past the movement of improved live stock has been from East to West. Like a great tidal wave, this movement has been rolling on for more than a century. Soon it will reach the limit of its farther short, and just as sure as action is followed by reaction, it will begin some day to flow back again in the direction from whence it came. The time is coming, in the judgment of the writer, when some, at least, of the best specimens of live stock found in our greatest show rings will be grown beside the Pacific in that western land of illimitable firs and ferns. And, soonest of all, perhaps, this eastern movement will take place in sheep, because of the peculiarly ideal conditions that exist there for the growth of sheep.

There should be no misconception regarding the meaning of the writer. It has not been said that the country referred to is a veritable fairyland, in which the earth, as it did in the golden age, will produce without labor on the part of man. This land is a land the major portion of which is covered with giant redwood trees, also firs and cedars, that grow to an immense size and tower away upward toward the blue sky. When the forest is cut down the stumps remain, and to take them out of the ground with dynamite or in any other way would cost many dollars per acre, even though the land could be got for nothing. Having said this much regarding the lions that are in the way of settlement, the reasons will be given why this land is likely some day to produce sheep among the finest that will be grown on this continent, and here it should be said that the country referred to is not all covered with the giant trees mentioned above. Here are valleys that extend along the rivers that are not difficult to clear. There are also tide lands here and there along the sea, which, when once reclaimed, are possessed of unfailing powers of production. But the proportion of these is not large compared with the whole area of the region.

**WHERE IS THIS FAIRYLAND SHEEP COUNTRY?**—It lies west of the Cascade mountains—that is, west of the farther westerly range of the Rockies that parallels the sea. It runs from California on the south to probably Alaska on the north. The writer has been over a considerable area, and therefore can testify from personal knowledge. The land now covered with forest is nearly all good land; but in fertility it is not equal to much of the land of the prairie. It is essentially a clay loam, and not a little of the soil down between Seattle and Tacoma, and probably some other localities, is gravelly in character.

**WHY DOES IT FAVOR SHEEP?**—Why, then, should this become an ideal sheep country? First, because of its climate. The climate is mild and equable during all the year. It is never hot or cold. Snow never lies more than two or three days during winter and the ground never freezes hard. Moreover, it is moist with the exception of two or three months in summer and the moisture produces succulence in the food. Second, because of the wide range in the plants that can be grown very suitable for the production of nutrition. In the line of winter fodders this region will produce in great perfection nearly all the clovers that are grown, and also alfalfa. In the line of summer grazing this land produces the same clovers, and, owing to the temperate and moderate character of this climate, the period of growth in there is greatly extended, not only during each year, but during successive years. The clovers in that country grow venerable with age. Medium red clover, for instance, loses its biennial habit of growth and becomes perennial. White clover turns the pastures into a flower garden for months in succession, and alsike clover will grow in meadows and pastures for years and years. In this region also will grow excellent crops of timothy, red top, oat grass and Russian Brome. In no other part of the United States, probably, can permanent pastures be grown so nearly resembling those of England as in the area under consideration. And then the vetch—the common vetch and the sand vetch—what can not be done with these? This land is the home of the vetch. The common vetch may be made to produce pasture or hay in finest form. It may be made to produce a food that alone, or nearly so, would furnish an excellent winter ration for sheep, and the sand vetch may be sown at almost any season of the year. Third, because of the large portion of the year during which sheep can be grazed. In fact, they may be grazed virtually all the year, except when falling rains may make it necessary to honor them. This would not be during much of the year, for much of the rain during the rainy season comes down in the form of a Scotch

mist. On rape, alone, sheep could be grazed from September on during much of the winter.

**SHEEP AS CLEARERS.**—And how is such a country to be turned into a sheep ranch? As soon as the timber considered good enough to saw is removed from the land, it is a mass of logs and brush and tree tops and ferns that one can scarcely look across. If at the close of two or three months of dry summer weather a torch is applied to this, much of it will go up in flame; but the stumps will remain. The logs, or a large portion of them, will also be there. The ferns, however, will be scorched. Now is the time to sow grass and clover seeds, as they are then sure to grow. Grazing with sheep should then begin at once and it should be close, otherwise the ferns and young firs will immediately begin to take possession of the soil. A variety of grasses and clovers should be sown, for the pasture is to be permanent in character. Once get a sod set in this land and the ferns, especially if fought against for a time, will disappear, and the grazing with sheep may go on while the stumps, dreaming of decay sometime in the future centuries, sleep the sleep of the ages.

Sometimes this land will produce specimens of sheep among the finest on this continent. All the conditions favor it. In addition to the foods mentioned, nothing has been said about field roots, which grow in finest form when properly cared for.

Is not the day coming when, instead of importing show sheep from Britain every year, our breeders in the portions of this country with sterner winters and drier foods will go over and get them in our own America beside the western sea?

### Angoras at High Tide.

At the recent Angora sale at Kansas City these popular animals reached high tide. There was a great show first and then a sale of the prize winners. One account which we have before us says that the champion buck, "Dick Junior," with his royal purple insignia of rank, was led into the sale arena by his fortunate owner, Mr. Frank O. Landrum of Laguna, Texas, and after appropriate talk by Col. Zack Wells, the auctioneer, outlining his breeding, the bidding began with an offer of \$100, which was rapidly succeeded by other bids until he was knocked down at \$1300 to Messrs. E. L. Witt & Son of Montell, Texas. Col. Wells was in happy vein and kept the bidding at fever heat, reaching the climax in ten minutes. It was a great compliment to the high quality of the champion—a product of the imported South African buck "Dick"—and a Landrum doe that traced to the Dr. Davis importation—that the spirited bidding came from expert breeders who knew that the champion was in himself not only a magnificent specimen of his race and tribe, but carried the bluest of Angora blood and was worth every cent of the kingly price he brought.

Following hard on the heels of the champion came the second prize yearling doe, that carried sweep-stake honors at the Oregon State Fair, and in less than seven minutes sold to J. J. Gentry of Texas for \$900, the record price for an American bred Angora doe. This handsome doe was raised by Craig Bros. of Macleay, Or., and like the champion was bred in the purple. Col. Wells waxed warm and eloquent as the bidding passed the \$500 mark and rose to a triumphant climax as the little Oregon beauty was knocked down to Gentry at the record price. The onlookers, men and women, cheered to the echo, Col. Stewart lost his equilibrium in happy exclamation and the wildest scene ever enacted at a goat sale had passed into history.

**A PINNACLE OF GOAT LITERATURE.**—Another account of the foregoing sale shows the goat writer in a fine frenzy: It was F. O. Landrum's "Dick Junior." Bang! "Five hundred dollars," cried as many bidders. "Six hundred," "Seven," and the ball bounced along, gaining momentum as it goes, until the thousand dollar mark is reached. Then comes a lull. For a minute or more not a voice but that of the auctioneer's pleading for bids is heard. The silence is brief, but the tension terrible. Now a melodious female voice is heard, "Eleven hundred dollars." Ah! the Angora queen who has reached the highest pinnacle of fame in the Angora goat breeding industry lets the audience know she still reigns. Gallant as the male bidders may be, they scarcely feel like having the gauntlet thrown down to them, and they bid fiercer than ever. Their queen continues to bid, too. A bid of \$1300 ends the battle and the animal goes to head the stud flock of a noted Texas breeder. This brings the nerve-straining moments to an end for a time, at least.

## THE IRRIGATOR.

### Irrigation and Fertilizers.

TO THE EDITOR:—Plants take up their food only when it is provided in solution. The food may be dissolved by water, or by the direct action of the roots, or by the process of fermentation, which is almost constant in all soils. In either case, soil moisture is essential and a common carrier, and the way the

water is used seriously affects the results obtained from fertilizers.

There are three kinds of water in soils: Free water, which moves by gravity; capillary water, which moves by the power of attraction between particles; and hygroscopic water, which can only be detected by laboratory appliances. A clod of earth may lay for weeks exposed to 110° of summer heat and yet contain water. This is hygroscopic water. Capillary water travels upward, downwards and sideways. It is the water upon which plants mostly feed. It is what is left after the free, or gravity, water has drained away or spread itself into a capillary condition.

As the water at the surface evaporated, capillary attraction carries up more to replace it, reducing the amount underground. An irrigation or a rain renews the supply in the lower strata, as well as at the surface. After the irrigation the capillary movement upwards begins again, induced by surface evaporation. Thus there is an oscillation of moisture in soils. The rapidity of the movement and the amount retained vary according to the fineness and character of the soil.

These capillary movements upward, downward and sideways carry dissolved fertilizers with them. Evaporation at the surface leaves the fertilizer there to be carried down by the next irrigation or rain; hence, top soils are always the richest in plant food. Waste water from a farm means a much greater loss than the price of the water, because valuable ingredients have gone with it. By not keeping winter-storm furrows in an orchard, the rich, top soil may be lost, which is difficult to replace.

The action of water, unless carefully controlled, wears on a farm. Every one knows how sediment collects at the lower end of a furrow. It came from the other end somewhere; if the pitch at the flume is very steep for 50 or 100 feet, the trees in that space will be the first to show yellow, although they are nearest the flume and received the most water. This is because the nitrates have been washed to the lower levels. By putting manure or straw on the steep part, the water will move more slowly and the soil and nitrates be retained where they belong.

Irrigating water can not be handled too carefully. It is better to cultivate across the furrows last, as the tendency of the water would then be to travel sideways, and its movement, therefore, be slower. Do not turn on a heavy head of water until after the furrow is soaked a little and the fine earth compacted; this will lessen the washing.

Certain forms of fertilizers are water-soluble. Sulphate of potash, nitrates of soda, sulphate of ammonia and the superphosphates are easily carried by water. If applied just before an irrigation they go to the deepest roots, or wherever water can go, and, if there is any waste water, a part of them is lost. When fertilizers are applied in the fall or early winter, the storm furrow should always be put in as a protection from this loss.

Thus it will be seen that a careful handling of the irrigation is a three-fold economy. Water, fertilizer and top soil are the three most valuable assets of a California farm or orchard, not excepting even the cow and the family.

On account of the solubility of the nitrates and other plant foods, improved methods of irrigation are always possible, the aim being to stop the wear and tear of running water. The ideal movement of water in soils is up and down, with the least possible surface movement. In this way the rich, top soils and fertilizers will be retained where they belong.

Redlands.

CARROLL B. SMITH.

## THE POULTRY YARD.

### The Turkey Outlook at the East.

This subject is of direct moment to the turkey growers of California who have to compete with the free shipments from the Central West to this State. Orange Judd Farmer shows that this year's crop of turkeys is considerably below the normal in central western sections. Because of the comparative shortage the supply running 25% to 50% below the normal (occasionally a still greater deficiency), prices should reach a reasonably good level. This situation is brought out by special inquiry just completed by Orange Judd Farmer.

Prices to farmers in such States as Illinois, Indiana, Iowa, Missouri, Wisconsin, Minnesota, Michigan, Ohio, Kentucky and South Dakota, cover an extreme range of 8 to 14 cents per pound live weight at the close of October, 10 to 12 cents the prevailing figures. The tendency appears upward with the approach of cooler weather and the regular turkey shipping season.

The weather in early spring and summer was too wet and cold, in the States named, with few exceptions, to be desirable for the maturing of a full crop of turkeys. The turkey when small is every sensitive to cold and dampness and easily succumbs under the slightest exposure.

According to reports from a large number of country dealers and shippers the crop varies considerably in the different States. Indiana appears to have



about the usual number of turkeys for the market this year. Placing the percentage of a normal season at 100, this year does not fall far below an ideal one. Illinois would seem to be next in line, the average of a fair number of reports being about 75%. Conditions in Iowa do not appear to be altogether so favorable, half a crop or less being the general rule. The same is true in the main of Ohio, Kentucky, Michigan and Minnesota. Wisconsin has a fair number of turkeys, as is also true of part of Kansas and South Dakota.

Shippers express difficulty forecasting prices. The possibility of Thanksgiving values may in a measure be surmised by mid-autumn conditions. As before hinted, values seem to be looking upward, a state of affairs entirely warranted by the light crop. Nice, plump turkeys have been active sellers on leading wholesale markets the past few weeks and prices have ruled firm.

## TRACK AND FARM.

### The Wind Shield and Its Aid.

Readers who have been trying to compute for themselves how the new wind shield helps the animal following it, will be interested in the following reflections in the Breeders' Gazette. Nothing since the advent of the pneumatic-tired sulky has in harness-racing circles stirred up quite so much discussion as the wind shield behind which Prince Alert paced his famous mile in 1:57 and Major Delmar trotted in 2:00.

**WHAT THE SHIELD IS.**—This shield consists of a large expanse of stiff canvas stretched on a frame which rises above the axle of the sulky to the height of the driver's chin and hangs below the axle almost to the ground. The portion of the canvas which hangs below the high-arched axle serves the dual purpose of shutting off the atmospheric pressure and keeping pebbles and pieces of dirt from striking the trotter or pacer in the tender parts of the head. A running horse, going at a rapid gait, throws much dirt with his hoofs, and the impact of these very often prevents a horse from showing its utmost speed.

**THE PHILOSOPHY OF IT.**—It is well known that the resisting power of the atmosphere, even on a perfectly calm day, is very great, and the main preventive of record-breaking. It is this unseen force which has always been the problem in the attainment of great speed by any vehicle mounted on wheels. Admitting this, it may be asked how fast a trotter or pacer could be made to go by increasing the speed of the motive power of the shield. Supposing that a fast racing automobile should be used to break the force of the air and create the suction which is thereby engendered? It is no hard matter to find an automobile which can easily make a mile in a minute and a half or less. Such machines are nowadays comparatively noiseless, and harness racehorses may easily be accustomed to almost any sight or sound. It would take only a very little training to get a trotter or pacer to follow a fast auto closely, and then there seems to be little doubt that records would be made much faster than those already secured. Of what value would they be, however? Is the record made behind the wind shield drawn by a runner of as much value as the one made without its aid? In an article printed in a recent issue M. T. G. says that a horse, sulky and man form a very good wind shield in actual racing, and that the use of the shield in trials against the watch is merely transplanting a similar condition from the actual contest to the flight against time. A point which M. T. G. has apparently overlooked is this: In a race the driver of one horse may operate as a shield for another for more or less of the distance covered, but when the shield is used in trials against time then it is kept just so far ahead of the aspirant for hours, and in that way an advantage is given which can only exist in very small degree in actual racing.

**WHAT CAN BE DONE WITH AN AUTOMOBILE.**—When, as has already been recalled, bicycle racing was a popular sport in this country, the amount of speed attained seemed to be merely a matter of the amount of "pace" furnished. If a rider could rush in behind a tandem swiftly driven by two skillful men he could show a tremendous flight of speed, whereas without the aid of the "pace" he could not develop any such rate of progress. From this to the utilization of a railroad train as "pace" was natural progression, and then it was most clearly demonstrated that the speed shown by the rider of the bicycle was governed solely by the speed attained by whatever went in front of him. This is apparently the point we have reached in making of harness records on the track. Just at present it would seem that if a fast auto should be rigged with a shield and one or other of the fastest pacers trained to follow it, the existing mark would be greatly lowered, though just how far is not so easily discovered. Naturally a record taken in any such way is not to be classed with one taken without such aid. That much any one will admit. Then, if that is admitted, where are the records taken behind the shield drawn by the runner to be placed?

In other words, where is the line to be drawn? Sooner or later it must be drawn somewhere, and the decision will fall to be handed down before very long. It would be well for the authorities to make it public at once.

Therefore, it would be well if some experiments could be made with the racing automobile in order to see how much faster a pacer or trotter can go with such assistance than without it. It ought not to be difficult to find some one willing to permit his horse to make some such trial in the cause of the public good. There are, however, other things which should be definitely settled this autumn if possible. Reproductions from photographs of the trials made by Major Delmar and Prince Alert show the record-breakers to be much farther behind the shield than it was supposed they would be driven. It is certain, too, that during each of these miles the distance maintained between the two must have varied more or less. It is plain that it is only a question of distance behind the "pace" until its influence is destroyed altogether. Again, the element of the general uncertainty of fast horses enters into the discussion, and altogether it is time for some definite steps to be taken in the matter. The trial behind the shield pulled by an auto seems to be the most feasible way out of the tangle.

### Selecting Mules for General Use.

A Kentucky farmer gives the Orange Judd Farmer the teachings of his experience with mules. For best results choose a mule that will not only be a good worker, but a good seller when broken, one that will make you money. The thoughtful farmer will dispose of his team when they are near seven years old. Under that age they sell best. He should sell them, even though he is very much attached to them, for they depreciate in value after that age. Then invest in another young team and develop it. In buying, select those that match well in all or nearly all points, especially in color, size and age. When possible select green mules out of the bunch whose owner treats them with kindness and consideration. Such will be gentle, and will have learned to have confidence in you. In other words, they are half broken. The former will be good work animals, while it is the rare exception, rather than the rule, that the latter gives satisfaction.

The mare mule is to be given the preference. As a rule she is gentle, comes to maturity earlier, is more valuable and has more respect for the live and let live policy as regards calves, pigs, etc. The farmer must be his own judge about size. I prefer a 15 to 15.2-hand mule for ordinary farm work. For heavy teaming the larger mule is best, while the smaller one is better suited for cultivating crops and general farm work. In making a selection, remember that the dish-faced animal is not only ugly, but is usually below the average in intelligence, as is also the one with little ears that come very close to the tips. Avoid the cat-hammed, very leggy or the sunken-eyed mule, for these are against you at selling time. To detect stringhalt, turn the mule sharply around, lead forward or back if possible over a log or some other object. Go through all these tests, and the animal will show it if the least bit stringy.

All the other defects in the catalogue should be avoided if we would have a salable animal. Choose a game mule; not a slovenly one, but steer clear of the one that snorts when you approach it, distending its nostrils and appearing nervous. Such an animal is troublesome and is hard to conquer. They are, however, rare. Have an eye to selling when buying, and bear in mind that the large, sound mule brings the most money, and is therefore the most profitable. The favorite with me is a mare of blocky build, black, with white points, high headed, game, Roman nosed and 15.2 to 16 hands high.

## THE FIELD.

### Beet Culture in Arizona.

Prof. A. J. McClatchie, of the Arizona Experiment Station at Phoenix, publishes "Timely Hints" about growing sugar beets under interior arid conditions, many of which are as applicable to stock beet growing as they are to the sugar beet. The data in the possession of the station are the result of experiments made during the past six years and were obtained by co-operative experiments on farms in the Salt River and Gila River valleys, and by extensive experiments at the station farm.

**SOILS.**—The soil best suited to sugar-beet culture is a heavy loam containing an average amount of humus. Sandy or gravelly soil, or soil deficient in humus, usually gives a low yield of beets that contain a fairly high percentage of sugar. Adobe soil is more difficult to cultivate, but usually gives a good yield and a fair percentage of sugar. The heavier soils require less frequent irrigation than the lighter ones.

**TIME OF PLANTING.**—There are two periods during which beets may be sown in southern Arizona, with a

reasonable prospect of securing a stand. One period is from the latter part of September to the end of October, and the other from the latter part of January to the end of April. During the first of these periods the seed must be irrigated just after being sown in order to bring them up. During the cool weather of winter the seed will germinate without irrigation if the soil has been thoroughly irrigated and the surface is still moist when it is seeded.

The periods during which beets may be sown with a probability of securing a satisfactory crop are shorter than those given above. One period is very brief, covering only the latter part of September and the early part of October, and the other extends from the latter part of January to the middle of March. During the fall period the beets must be irrigated up, as stated above, while during the latter period a stand can be secured without irrigation soon after seeding.

Beets sown during autumn begin going to seed during the latter part of March or during early April. Hence it is necessary to sow them as early as possible after the warm weather of summer, in order to secure a satisfactory tonnage. From the middle of November to the end of January beets make very little growth. Those sown in the fall after the early part of October get so poor a start before their growth is checked by the cool weather that they are ordinarily very small when the time arrives in the spring when all autumn-sown beets begin going to seed. Beets sown during November, December and January are liable to be killed by frost just after they come up. However, if by escaping frost a stand is secured during December and January, satisfactory results usually follow. Beets sown during February ordinarily give the best results. Those sown after the middle of March do not have sufficient time for growth before the heat of summer.

**IRRIGATION.**—Autumn-sown beets require irrigation about once in ten days from the time they are sown until December. During the remainder of their growth the amount of irrigation needed depends upon the extent of the winter rains. During February they usually require two heavy irrigations.

Beets sown during January and February in moist adobe or heavy loam do not usually need irrigation until April, the date of the first necessary application of water depending upon the soil and the time and extent of the winter rains. During May and June thorough irrigation two to four times is necessary in order to produce a good yield. In lighter soils, earlier and more frequent irrigation is needed than in adobe or heavy loam soils. The number of irrigations necessary subsequent to seeding to produce the best yield of beets and sugar varies from three to six, depending on the soil. The total amount of water required to produce a crop of beets varies from 1.5 to 3 acre-feet per acre, the greater portion of it being needed during May and June. The June irrigations are of especial importance for securing a satisfactory tonnage.

**TIME OF MATURING.**—Autumn-sown beets mature about the last of March and must be harvested promptly or they will begin sending up seed stalks. Winter-sown beets usually reach their maximum size during July, the date depending on the soil, the time of seeding and the amount of water applied. After July, they usually remain about stationary as to weight, but lose in sugar and purity. If left standing in the ground during the hot weather of summer, some usually decay; and it is difficult to keep them more than ten days if dug during July, August or September. Like all root crops in so warm a region, they are subject to decay both in and out of the soil.

**YIELD OF BEETS AND SUGAR.**—The yield of beets during the four years that experiments were conducted by the station varied from five to eighteen tons per acre in the Salt River valley, the average yield being 9.7 tons per acre from autumn-sown beets and 11.5 tons per acre from winter-sown beets.

The per cent of sugar in beets grown in the Salt River valley and tested in the station chemical laboratory ranged from 11.1 to 18.6 in autumn and winter-sown crops, the average in the former being 13.1 and in the latter 14.8.

**COST OF PRODUCING CROP.**—Judging from data obtained from the experiments conducted on the station farm and upon the farms of those co-operating in the work, the cost of producing beets in the Salt River valley is \$30 to \$40 per acre, including labor at prevailing wages and counting rent at \$5 per acre and water at \$2 per acre. So few weeds grow in winter-sown fields that the cost of caring for the crop during the early stages of its growth is much less than in some localities. This is about balanced by the extra irrigation required during the latter part of their growth. Also, the work of harvesting, coming, as it does, principally during the heat of summer, is somewhat more expensive here than in other sections where beets are grown for a factory.

It is reported in the German press that successful experiments have been made in various forests of France in cutting trees by means of electricity. A platinum wire is heated to a white heat by an electric current and used like a saw. In this manner the tree is felled much easier and quicker than in the old way.



## THE VETERINARIAN.

### Causes and Treatment of Alfalfa Bloat.

TO THE EDITOR:—Will you please tell me the best way to relieve a cow that has been bloated by eating alfalfa? I have been told that the only relief is to puncture the stomach. If this is the best relief, please tell me if it is necessary to use a special kind of instrument, made for the purpose, or will any ordinary sharp knife answer the purpose? Can you tell me just where the puncture should be made? Does bloating often prove fatal? If not, what are the bad effects? How can bloating be prevented?—SUBSCRIBER, Sacramento county.

This important subject has been frequently discussed in our columns, and most experienced Californians know just what to do and how to do it. There are, however, so many newcomers on our subscription list, and so many others who have recently taken to growing alfalfa, that it is timely to give quite a full review of the subject and to ask readers to keep it handy for future reference, for it is not likely that we can find space for so complete an account again for some time. The following essay is by Dr. N. S. Mayo, Veterinarian of the State Agricultural College of Kansas, with a few interpellations of our own:

This disease is known by a great variety of names, almost every locality having a different name for this condition. Among the most common names are tympanitis, bloating, hoven, blown, etc. Most of the names are based upon some prominent symptoms exhibited by animals suffering from this disease.

Nearly all domestic animals are liable to bloat, or distension of the abdomen with gas, as a result of indigestion, obstruction of the bowels, or choking. As the causes and treatment of the different kinds of bloating differ considerably, this article will apply only to bloating in ruminants, cattle and sheep, as a direct result of eating a large amount of juicy food.

WHAT IT IS.—Bloating, in all cases, is an accumulation of gas in the stomach or intestines, or both. The gas is produced by a fermentation similar to that observed when cider is "working," and the gas escapes in bubbles. There is usually a small quantity of gas given off from the food during normal, healthy digestion, but so small that it causes no trouble and passes off readily through the intestines, though sometimes from the stomach, up the esophagus, and out of the nose or mouth—"belched up," as it is commonly expressed. These gases which cause an animal to bloat are generated in considerable quantities if a large amount of juicy, green food is eaten. Alfalfa, clover and frozen roots are very liable to produce bloating.

It is well known that only part of the animals in a herd pasturing upon clover or alfalfa bloat, so the blame cannot be laid entirely upon the food, but is probably the result of a slight derangement of the digestive organs, not ordinarily noticed, but easily aggravated by certain foods which ferment easily, and bloating is the result. Animals that are noticed ailing are very liable to bloat when turned on alfalfa pastures.

UNDER WHAT CONDITIONS.—Alfalfa and clover are much more liable to produce bloating if wet with rain or dew, and especially hoar frost, and animals are more apt to bloat if turned into the pastures when very hungry, as they gorge themselves, and the food is not properly masticated. Hence, if cattle are kept in yards until the clover or alfalfa has dried off they should be fed—not allowed to go hungry to the pastures.

It is generally believed by those who have had considerable experience in pasturing clover or alfalfa that cattle and sheep are less liable to bloat if they have free access to dry food, such as hay or straw. Common bloating, or hoven, occurs in animals having a com-

pound stomach and that chew the cud—ruminants, as they are called. Of our common domestic animals, cattle and sheep belong to this order.

SYMPTOMS.—Bloating is a distension of the rumen (paunch) with gas. One of the first symptoms noticed is that the animal stops feeding, and remains lagging behind or stands by itself. Rumination, or chewing the cud, is suspended; the animal appears dull and listless, the back slightly arched; the whole abdomen or belly is distended, with a prominent swelling on the left side, just forward of the point of the hip. If this swelling is tapped lightly with the fingers there is a hollow, drum-like sound. Hence the technical name, tympanitis.

The rumen being distended with gas not only makes the animal appear much fuller than usual, but it presses forward on the diaphragm, or "midriff," and this presses against the lungs and interferes seriously with the animal's breathing. The breath is short and rapid. The animal often grunts, or moans, with each breath. The animal's nose protrudes, and there is a driveling of saliva from the mouth. Sometimes there are quite severe colicky pains, shown by the animal's kicking at its belly and stepping about uneasily. Sometimes, also, the pressure is so great as to cause eversion or bulging out of the rectum. The symptoms of bloating are so prominent, especially when the history of the case is taken into account, as to make this disease very easy to recognize, even by an ordinary observer.

When animals die from bloating, death usually takes place in the following manner: The diaphragm is pressed against the lungs so hard that the animal cannot breathe, and it dies of suffocation. Animals usually remain standing until near the end, when they gradually lose consciousness, stagger, and fall, and in falling rupture some of the vital organs.

TREATMENTS.—The treatment adopted must depend somewhat upon the condition of the animal. If the animal is badly bloated, with labored breathing and staggering gait, energetic measures must be resorted to at once. The best and most satisfactory treatment for bad cases is tapping. This consists in making a hole through the skin and muscles, over the prominent swelling on the left side, into the rumen or paunch, thus allowing the gas to escape at once, relieving the animal.

The best method of tapping is by means of an instrument called a trocar and cannula. A trocar is a sharp-pointed instrument, 5 or 6 inches long, and about the size of a lead pencil, with a handle at one end. Over the point of the trocar slips a tube, called a cannula, not quite as long as the trocar, with a wide flange around the upper end of the tube. The instrument described is about the size for cattle; smaller ones are made for sheep, although the cattle trocar can be used for sheep, provided it is not pushed in its full length, one-half to two-thirds being about the proper distance. [These instruments are not expensive and can be furnished by any dairy supply house advertising in the PACIFIC RURAL PRESS. They should always be kept ready for use.]

To use a trocar and cannula, proceed as follows: Tie the animal so it cannot get away. With a sharp knife make a small incision through the skin over the prominent part of the swelling on the left side. This incision should be made about half way between the point of the hip and the last rib, and should be large enough to admit the trocar and cannula readily. The incision should be made quickly—then the animal will not notice it. After the incision is made the trocar and cannula are pushed quickly in and directed downward, inward and forward. Push the trocar in until the flange of the cannula rests against the skin. Withdraw the trocar and the gas will rush out—that is, it usually does so. Occasionally, however, the end of the cannula is plugged up with green food. This can usually be remedied by pulling out the cannula part way, or pushing the trocar in again and withdrawing it. If this does

not work, tap the stomach again in another place, using the same hole through the skin. The escape of gas is usually accompanied by a small quantity of green food.

If a trocar and cannula are not available in an urgent case, a knife can be used very successfully—a good-sized pocket knife, pushed quickly through the skin and muscles, in the same manner as described for the trocar and cannula. Care must be taken that the edge of the knife blade is not turned towards the animal's tail, as they sometimes jump forward, and a much larger hole is cut than was originally intended.

A KNIFE PREFERRED.—A careful and observing stockman of Colorado, who has had a large experience with alfalfa bloating, informs me that he prefers a moderately small, sharp butcher knife to either a trocar and cannula or a pocket knife. It gives relief quicker and with no bad effects. Sometimes, if the opening through the skin is small—made by a small knife—a quill or a small tube is fastened in to keep the incision open, so that the gas can escape. It is usually necessary to keep the incision open for several hours, until all danger is passed.

The only bad result of tapping is that occasionally green food gets outside of the rumen into the abdominal cavity in sufficient quantities to cause inflammation and death. But if the operation is intelligently performed these bad results are extremely rare—probably not more than one case in one hundred. If the weather is warm, care should be taken that flies do not bother the wound through the skin.

SIMPLE TREATMENTS.—If the case is not severe enough to warrant tapping, the following remedies will be useful: A gag, made by winding a good-sized rope back of the horns and through the mouth, or a bit made of a piece of wood the size of a fork handle, can be tied in the mouth. The bit should be made large and smooth, to prevent injuring the mouth. Then a small handful of salt should be thrown well back on the roots of the tongue. This causes the animal to work its tongue, increases the flow of saliva, and thus favors the regurgitation, or gulping up, of the gas. The salt and saliva which are swallowed help to stop the fermentation.

California growers have found that many cases of bloat can be relieved by causing the animal to stand with the hind feet in a ditch and the fore feet on the bank. This will relieve them by causing them to belch the gas. From two to ten minutes' time is required. Some people claim to have observed that experienced bloaters learn to get themselves into such a position for blowing off the burden.

Blankets wrung out of cold water and wrapped around the abdomen or belly, cold water dashed on with a bucket, often gives relief. Turpentine given as a drench, in milk sufficient that it will not irritate the animal, is good. Two ounces of turpentine for adult cattle and one-half ounce for sheep is a dose. Hyposulphite of soda, dissolved in water and given as a drench, is good—one ounce for cattle and two drachms for sheep. This can be repeated every half hour for two or three doses. Aqua ammonia, two ounces for cattle and one-half ounce for sheep, well diluted with water; carbolic acid, cattle thirty drops, sheep eight to ten drops, in sufficient water; common soda, in half-ounce doses for cattle and one-half drachm for sheep, can be given. In giving medicines as drenches, they should be well diluted with water or other substances until they will not burn when touched to the tongue. In giving drenches, be careful and not choke the animal. If the animal coughs or struggles violently, stop at once until it recovers somewhat. Give drenches slowly.

Drenches are best administered from a long-necked, thick, glass bottle, or drenching horn. Take hold of the nose with the left hand, by putting the thumb and finger in the nostrils, while an assistant takes hold of the horns and tips the head back. Standing on the right side of the animal, with the right hand put the neck of the bottle in

the right corner of the mouth, and pour the medicine in slowly.

AFTER TREATMENT.—After the bloating has been relieved it is a good plan to give the animal a purgative—one pound of Epsom salts, with one-half pound of common salt, for cattle, and for a sheep six ounces of Epsom salts and three ounces of common salt, dissolved in plenty of warm water, and given as a drench. The animals should also be dieted until their digestive organs regain their normal condition. By dieting I do not mean starving, but plenty of easily digested and nutritious food.

An animal that bloats once is very liable to bloat again. By judicious handling and feeding, by watching animals closely, and treating them in time, few will be lost by alfalfa bloating.

## THE SUGAR BEET.

### The Uses of Beet Sugar.

To demonstrate in a practical way the fallacy of the statement so often made to the effect that beet sugar cannot be used in canning and preserving of fruit, in the making of jelly, and candy, Dr. G. W. Shaw, assistant professor of agricultural chemistry and sugar expert of the University of California, has been conducting some interesting experiments, of which an outline is given in the Oakland Enquirer.

The work was called forth by the repeated statements made in public meetings and in the columns of certain papers that beet sugar could not be used for these purposes, and further inquiry showed that this idea was quite prevalent among housekeepers, cannermen and confectioners. But the same inquiry showed quite conclusively that in nearly all cases the cause of failure was attributed to beet sugar without any definite knowledge as to whether or not the sugar used had been obtained from cane or beet.

In the experiments made by Dr. Shaw, sugar from the two sources was used in the same manner for the sake of comparison of results. Large quantities of fruit of various kinds have been preserved, canned and made into jelly in the manner of the housewife and on a larger scale in several canneries, and used in candy making, the results of which have clearly shown that the idea as to any practical difference in the action of the two sugars for the various purposes is entirely unfounded.

In the earlier days of refining there may possibly have been some foundation for such an idea, but it certainly does not exist to-day with the most modern methods of refining adopted by the beet sugar houses. Practically all the sugar used in Germany and France for these purposes is from the beet, and for many years American refined beet sugar was used without further complaint because the mass of people were not aware it was beet sugar.

For many years past this country has paid to Europe, for sugar, practically all she had received for her wheat products, all of which sugar was made from the best. This sugar was brought here as raw sugar and refined in American refineries, but consumers have never purchased it under the distinctive name of beet sugar, but have used it under the false idea that it was sugar derived from the cane.

But since the industry has begun to grow so rapidly in the United States, attention has been directed to the source of the sugar and there has arisen this popular error, which may have been somewhat fostered by interested parties, notwithstanding there is no chemical difference between the two sugars after refining.

People have become so accustomed to the term "cane sugar" that they do not realize that within the last few years the bulk of the world's sugar supply has been shifted from the cane to the beet. In 1853, the world's sugar supply was 1,481,000 long tons, of which 304,000 tons only was accredited



to the beet, or about 21%. In 1902, of the total output of 10,710,000 tons, 6,860,000, or nearly 65% was derived from the beet. During this period cane sugar production has increased 201% and beet sugar production 3263%, and during this unprecedented growth nothing was heard of the matter in this country until sugar from the beet became a formidable competitor to refining interests.

In this connection it is well to note that beet sugar produced in the United States is made directly into white sugar in the factory—in other words refined at the factory—instead of being made into raw sugar and sent to a separate refinery to be refined. What this means to the people of the United States is illustrated by a contrast of the following figures: To produce a ton of granulated sugar from the raw material in the case of American grown beet sugar there accrues to American industry on an average about \$75, while by importing a ton of raw sugar and refining it only in the United States there is returned to us but \$7.

It would seem, then, that there should be little question as to whether consumers should support the home industry, and especially so as the sugar from the two sources is identical and that the sugar from the beet is adapted to all the uses of cane sugar, as demonstrated by Dr. Shaw.

## Agricultural Review.

### Alameda.

**PRIZE GRAPES.**—Louis Mel of El Mocho vineyard had four clusters of Verdel grapes which weighed twenty-nine pounds. Mr. Mel turned them over to the State Board of Trade in San Francisco where they were placed in an immense glass jar for exhibition. Later they will have a place in the Livermore valley exhibit at the St. Louis Exposition.

### Contra Costa.

**GRAFTING ENGLISH WALNUTS ON BLACK WALNUT TREES.**—Colusa Sun: J. B. Dungan of Walnut Creek, Contra Costa county, seeing that we have been discussing the matter of grafting the French or the English walnut on the many black walnut trees in and around Colusa, writes: The native walnut trees were growing wild along Walnut creek before the settlement of the country by the whites, and thousands of them have been grafted, some of them for fifteen or twenty years, and they are by far the most profitable tree grown in this part of the country, many of the older ones yielding as much as \$15 or \$20 worth of nuts annually. Now, when an almond, pear or cherry tree dies, they plant in its place three or four walnuts and from them they get one thrifty tree, and when it is three or four years old they graft it. These do far better than the English walnut on its own root.

### Kings.

**EXPERIMENTING WITH RICE.**—Hanford Sentinel: Quinby Brothers, of Angiola, have been experimenting in a small way with the growing of rice. They have artesian water and the crop has grown immensely, and an expert who knows the rice business gives it as his opinion that if an acreage representing the excellence of growth as the patch the Quinby boys have grown this season could be had, the crop would return from \$700 to \$800 per acre.

### Los Angeles.

**PORTER RANCH GOES TO A SYNDICATE.**—Herald: Yesterday the agreement to convey the Porter ranch in the San Fernando valley for \$550,000 was closed. The sale includes 16,174 acres and 5000 inches of water that is controlled by the owners, the Porter Land & Water Co. The new purchasers include H. E. Huntington, E. H. Harriman, J. F. Sartori, A. B. Hammond of Butte, Mont., George C. Hunt, manager of the Kern County Land Co.; L. C. Brand, E. T. Earl, W. G. Kerckhoff, H. G. Otis and George K. Porter. These owners, it is understood, have formed the H. E. Huntington-Harriman Co. for the improvement and development of the property. The first payment of \$50,000, while it is a part of the option, has been made, it is understood, to apply on the purchase price. The property is well improved and is susceptible of a high state of cultivation.

**NEW OFFICERS FOR ORANGE GROWERS.**—Pasadena Star: At a meeting this week of the Pasadena Orange Growers' Association, the election of a board of di-

rectors for the ensuing year resulted in the selection of J. E. Jardine, Byron Lisk, E. H. Royce, Frank Stokes, Ira A. Carr, C. A. Day and H. M. Cole. The report of the board of directors showed that during the past year \$44,993.89 had been paid to growers as follows: Picking, \$1899.70; hauling, \$1278.39; cleaning, \$793.19; cash, \$41,022.61. The total cash disbursed during the season was \$72,347.19. The total number of loose boxes of fruit received at the packing house was 79,692. Of this number the Association picked 57,101 and hauled 57,169 boxes. The growers hauled 22,523 boxes, making a total of 79,692. The Association cleaned 74,550 boxes, while the growers cleaned 5142. The total number of boxes packed during the season was 51,468.

**APPLES.**—Antelope Valley Gazette: Three hundred and eighty pounds of as fine apples as ever grew Dave Maxwell gathered from one tree. Last year he harvested 1700 pounds from the same tree.

**HONEY SHIPMENTS.**—The honey output of Acton this season amounted to 185,076 pounds, of which two cars went to Los Angeles, two to Portland, one to San Francisco and one car remains on hand.

### Orange.

**PEANUT CROP.**—The peanut crop of Orange county this season is estimated at ten cars. Of this quantity, C. E. Utt of Tustin will have half. Mr. Utt is the Pioneer peanut grower of that section and he says the area devoted to this industry is being gradually restricted because of the small margin of profit. Good orchard land hitherto used for peanut growing will be put to other uses. Last year fifteen carloads were shipped and the year before twenty cars was the output.

### San Benito.

**CHOICE PEARS.**—Thirty-one refrigerated cars of apples and pears were shipped from San Juan valley this season from Betabol station. The fruit was shipped principally to New York City, but several cars went to London. San Juan valley pears are classed in foreign markets as the best, having excellent flavor and good keeping qualities. The excellence of the fruit is attributed to the fact that the valley is within the fog belt, just at the place where sunshine and fog meet and greet each other.

### San Bernardino.

**END OF SUGAR BEET SEASON.**—Chino Valley Champion, Nov. 6: Last Saturday noon the last of the sugar product of the 1903 crop of beets was run into sacks at the factory, and the last of the machinery was shut down until the crop of 1904 shall again set it in motion. All is now quiet in the big buildings, except that about ninety men are engaged in cleaning the machinery and preparing it for its rest. The campaign commenced on August 8, making it eighty-two days in length, during which time 59,415 tons of beets were sliced. On the 15th inst. the farmers will receive pay for the last month's delivery of beets, amounting to \$79,000. The company is now leasing its lands here, and is receiving applications for beet contracts for next year. Indications point to a satisfactory acreage for the next campaign.

### San Joaquin.

**MORE PUMPKINS.**—Lodi Herald: H. F. Ellis, working for the interests of the Stockton Chamber of Commerce in gathering an exhibit for the St. Louis Exposition, brought from Terminus two mammoth pumpkins—one from the ranch of Nels Gorman and the other from Jim McMillan's place. The first of these mastodon vegetables measures 6 feet 7½ inches in diameter, 21 inches in height, and weighs 166 pounds. The second stands 24 inches high, measures 6 feet ½ inch around and tips the scales at 157½ pounds.

**TOKAYS AVERAGING \$160 PER TON.**—Lodi Sentinel: E. G. Williams, who lives on the black lands south of Lodi, has been shipping grapes to the New York market. Thursday his grapes sold for \$2 per crate, leaving him a profit of nearly \$1.50 per crate. Estimating the grapes by the ton, this amount would figure about \$160 for 2000 pounds. Other growers have realized as good prices. Thursday the grapes from the Kettlemen Vineyard sold in New York for \$2.05 per crate.

### Santa Barbara.

**SOLID TRAIN OF WALNUTS.**—Times-Index: A solid train of walnuts, consisting of forty-two cars, passed through here for the East. This is the first big shipment to go East over the Santa Fe from the southern part of the State.

**BIG PUMPING PLANT.**—The Union Sugar Co. is putting a \$10,000 pumping plant on the Shuman ranch, 2 miles west of Santa Maria. When finished it will be one of the three largest plants of its kind in California. A 150 H. P. Corliss steam engine and two 66-inch by 16-foot return tubular boilers, 200 H. P., with sixty-four

inch flues have been set up, and a 10-inch centrifugal pump will be used. This is expected to pump 4000 gallons per minute and will irrigate 15,000 acres, 18 inches deep, during the entire season.

### Santa Cruz.

**THE BERRY CROP.**—Watsonville Pajaronian: This season 541 carloads of berries have been shipped from Pajaro valley. If all these berries were loaded at one time in cars 34 feet long it would require a train over 3½ miles in length to convey them to market.

### Sonoma.

**A PRODUCTIVE RANCH.**—Santa Rosa Press-Democrat: Former Sheriff Sam Allen has a very productive twenty-five acres of prune orchard. This year the yield of green prunes was over 101 tons. After drying the prunes he sold them for \$2300. Deducting from this sum the total expense of caring for the orchard, drying, etc., which amounted to \$778, his net profit on the prunes was \$1522.

**A MAMMOTH CABBAGE.**—Wesley Mock has raised a mammoth head of cabbage, measuring 4 feet and 3 inches in circumference.

**AN EGG RECORD.**—From statistics received from the California Promotion Committee from Petaluma, that city has achieved a record in egg production. In four months 1,484,441 dozen eggs were sold in Petaluma for shipment and cold storage alone. At an average price of 25 cents per dozen, the income to the egg ranchers for this period exceeded \$375,000. In addition more than \$15,000 worth of chickens were shipped from Petaluma. The annual egg output of Petaluma has been estimated at 2,200,000 dozen annually, but it is said that 5,000,000 dozen will not be too high an estimate for 1903.

### Stanislaus.

**SWEET POTATOES.**—Modesto Herald: Since the shipping season of sweet potatoes began, over two months since, there has been an average of over six cars daily shipped from the three Southern Pacific switches—Ashby, Buhach and Atwater—making a total to date of over 300 cars. At the present price (\$1 a hundred) a car is worth on an average about \$270. This means that approximately \$80,000 worth of sweets have been shipped out of the Atwater district in the past couple of months. Counting the harvest as half over, a fair estimate of the season's output for that district would be \$160,000. J. B. Osborn, the Atwater merchant, says there are 300 families located on what is known as the sweet potato belt. A large number of them started with nothing, obtaining their land on the small payment mortgage plan, and now have succeeded in clearing their houses of debt, but in establishing balances to their credit in the local banks.

**DRIED PEACHES COMPARED.**—The loss in weight from drying Lovell and Muir peaches has been ascertained by F. E. Hayne, of West Montpelier. The test was carefully made with 135 pounds each of the two varieties. Result: The Muirs weighed 22 pounds to the sweat box, while the Lovells weighed 28 pounds, being 6 pounds in favor of the latter variety. This shows a pretty big discount of the so-called "popular Muir" peach, over which so many growers go daft.

### Sutter.

**ORANGE TREES BLOSSOMING EARLY.**—Yuba City Farmer: F. L. Stone, of Franklin Corners, has orange trees now in full bloom, and they present quite a pretty sight. The trees are of the Navel and Mediterranean Sweet varieties and he thinks that the thorough irrigation he gave them during the summer, together with the warm weather this fall, has started out the bloom. The flowers are large and well formed.

### Tulare.

**CATS AS SQUIRREL CATCHERS.**—Advance: A farmer from Pixley tells of a better squirrel killer than the pesky hawk, or even poison. It is a cat. He says he has some cats at his place that \$50 apiece would not buy. He thinks they are worth more to him than that amount in a season. He says a good cat will kill more squirrels in a day than a man could kill with a gun, trap or poison.

**A NEW FORAGE PLANT.**—Register: Mr. C. R. Scott to-day showed us a sample of a new forage plant—at least, it is new on this coast. It is called teosinte, and resembles Indian corn very much in the shape of the stalk. Mr. Scott procured the seed from Tennessee and planted about a dozen hills in his back yard last year. He says that stock eat it very readily, and one seed will produce an immense growth of green foliage. The stalk is very soft and easily digested by cattle. [Teosinte was introduced into California about twenty-five years ago and has been quite widely tried. It will not grow well except where conditions favor Indian corn,

and Indian corn itself is better than teosinte.—EDS.]

**LARGE CITRUS FRUIT ORCHARD.**—Fresno Republican: A. B. Williamson, head partner of the Balfour-Guthrie Co. in the United States, arrived in Fresno yesterday and went to the company's property between Porterville and Lindsay. The tract comprises 5000 acres and it is being irrigated by pumping. There are eight wells, averaging in depth 225 feet. It is the intention to set the land out to citrus fruits.

### Ventura.

**SUGAR BEETS.**—Oxnard Sun: The beet crop has been a successful one to most of the raisers, as well as the factory, this year, although probably not quite as many tons were raised as last year, yet the sugar content was fully as good. There were raised for the factory this year about 17,000 acres of beets, and 162,000 tons of beets have been sliced for sugar.

### San Benito.

**SOME PUMPKINS.**—TO THE EDITOR: I saw in your issue of Nov. 7th a statement of two large pumpkins, weighing 156 and 166 pounds, which would be ordinary pumpkins in my orchard this season. There is one that I raised (in the window of Holbrook & Harris' real estate office in Hollister) which weighs 196 pounds. There were many in my orchard of six acres that were above the weight you mention.—F. B. EVANS, Hollister.

### Tulare.

**SWEET POTATOES AND PEANUTS.**—A. L. Cummins, who resides south of Farmersville, has brought in to A. E. Miot for exhibition purposes, sweet potatoes and peanuts grown on his place. Twelve potatoes weighed sixty-five pounds, the largest individual potato weighing about seven pounds. The peanuts raised by Mr. Cummins are large and full meat. The vines are thick with the nuts; all are of uniformly good size. Mr. Miot has hung the vine roots in the cellar and expects that they will dry uniformly and be in good condition for exhibition purposes.

**EXHIBIT OF OLIVES AND FIGS.**—Visalia Times: A. E. Miot, in charge of the county exposition exhibit, has a jar of olives showing the different stages of coloring from the green to the ripe olive. The olives are large and a good sample of the quality of olive that may be raised in this section. A branch from a fig tree that Mr. Miot secured in June and put in a jar of solution for keeping is in a fine state of preservation. The branch shows five different crops, ranging from the very small growth to the full developed black fig.

**A FRUIT BRUSH.**—Porterville Messenger: At the Porterville Citrus Association's house the Baker brush has been installed, a patent of H. G. Baker of Los Angeles, and stated to be the most rapid and effective brush in existence. The machine consists of three parallel brushes about 5 feet long, which revolve rapidly and are set on a slant. This, together with a carrier belt in the bottom of the channels, carry the fruit through, thoroughly cleaning it, and it is estimated that six cars of fruit can be run through the machine in a day. Six cars a day is the estimated output of the Association this season and altogether they expect to handle 150 cars, including nine cars of lemons.



Warranted to give satisfaction.

## GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.



## The Home Circle.

### What's Wrong With Sammy Brown?

I wonder what is wrong these days  
With little Sammy Brown;  
If he don't mend his ways, he'll be  
The queerest boy in town!  
We've been a-guessin' for a week—  
I wonder if it's girls!  
Why, he ain't out of knee-pants yet,  
An' sailor hats an' curls!

That Sammy Brown!—he used to hate  
The girls as bad as snakes;  
An' now he tells 'em makes the mud  
Is best for pies, an' makes  
Their little stoves to bake 'em in—  
An' that there Annie Kerr,  
He buys her candy, and he'd just  
Do anything for her!

When we git up a circus now,  
No use to count on him,  
'Cause girls won't tumble in the hay—  
An' he won't go to swim;  
But if we play at keepin' store  
You ought to see him—my!  
He's ready for that game, you bet,  
'Cause girls can come to buy!

I mind the time, if Annie Kerr  
Or any of the girls  
Would speak to Sammy Brown, he'd make  
A face, and toss his curls;  
But now, when we are hangin' on  
Behind a load of hay,  
An' he sees Annie off he gits,  
To go with her an' play!

Ho used to make the finest slings  
Of any boy in town—  
When mine was broke, I always went  
To little Sammy Brown;  
An' he could yell, an' scratch, an' fight,  
Just like a dog or cat;  
But now he wants to play at house,  
An' girlie games like that!

An' yesterday, when we had called  
Him out to play at bear,  
He peeped around the door, an' ask'd  
If Annie 'd be there.  
Then all the fellows laughed at him;  
We had to tell him "no,"—  
He said he had to chop some wood,  
An' guessed he couldn't go!

The gang was there, an' all the dogs,  
An' so we didn't care  
That Sammy wouldn't go along—  
'Cept we was short a bear!  
We had to give the huntin' up,  
An' stick right in the town,  
An' all because of Annie Kerr,  
An' little Sammy Brown.

That's just the way each evenin' now—  
A-comin' home from school,  
Up in the wagon loft, or down  
Around the swimmin' pool,  
Out in the picnie wood, or 'round  
On any street in town—  
Unless that Annie Kerr's along,  
We can't get Sammy Brown!

—The Housekeeper.

### The Last of Nina's Lovers.

"You won't find her that way."

Sheldon stopped short on the path to the cottage, and looked back. There was an old half-sunk pier at Dexter's Landing. One side sloped almost to the water, but the other was high and safe on its piling, stained green by the lapping river.

A figure in pink was perched at the far end of the pier. Nina never wore pink. She said it was ordinary. Nina's gowns were all in pastel tints. Also, the figure wore a large sunbonnet. Nina said that sunbonnets were ordinary, too, and topped her own pretty blonde curls with an airy creation in chiffon and tea roses.

Therefore, taking these points into consideration, Sheldon waved his cap in comrade fashion at the figure, and started for the pier.

"Don't whistle rag-time," said Sally, severely, when he was beside her. "It fidgets the fish."

"I don't see any fish," he returned, mildly.

"There are lots and lots. If you keep looking steadily at the water you can see them. I just saw a great big perch come along, and he chewed my bait right off, and sailed away with it. Fish are the meanest, smartest things you ever saw. Want to fish?"

"Not to-day, thanks, Sally."

"Oh, I forgot. You want to find Nina. If you go down past the boat-

house, up the board walk to the hotel, then over the beach—"

"It's too warm to travel," said Sheldon. "I'll fish. Lend me your pole." Sally watched him thoughtfully, as he rebaited the hook and cast out with a broad sweep.

"Fishing's awfully soothing, when you're worried," she said after a time. "You have to keep still, anyway, and the water makes you so sleepy and rested when you hear it lapping against the pier."

"I'm not worried, Sally."

"Yes, you are. Of course you don't notice it, but everybody else does. And I'm awfully sorry for you—about Nina, you know." The white sunbonnet nodded at him sympathetically. "You really haven't the ghost of a chance. You know Harry Barton and Wallace Stevens and old Mr. Dean? They all had it, too. Wallace had it worse. He wanted to jump off the lighthouse pier until I told him Harry and Mr. Dean had chosen the same place, and he changed his mind. They all tell me about it, you know, because I'm her sister. I can tell when one's in love with her before she can. First they give me candy and loan me their 'frat' pins, and say I'm a bully chum. Then after awhile they say they wish they had a sister like me. Then they want me to tell them all about Nina ever since I can remember, and I fill them up."

"Fill them up?"

Sally nodded contentedly. "Tell them a lot of fairy tales about how lovely she has always been, and how she saved my life three or four times, and never told a lie, and won't use powder, or curl her hair on an iron, or anything. And they keep on liking me until Nina lets them fall over, and after that they come and I sympathize with them, and they tell me how they would like to die. It's awfully interesting. Will you take to the pier when Nina lets you fall over?"

"I'm not in danger of taking a tumble, thank you, sister Sally."

"Oh, don't be morose and grumpy. It's a sure sign you're worried. And it's nothing at all to be ashamed of. Nearly every one falls in love with Nina. It's part of their vacation, Wallace says. And she doesn't mind, only she says she does wish they'd all propose by moonlight, as it's more effective and interesting."

"Did any one ever propose to you, Sally?"

"Oh, my, yes. And it was lovely. Last year—no, two years ago—I was eleven, going on twelve, and the Seventy-second Regiment came down here to camp. And there was a bugler boy. He was going on fifteen. He wasn't very pretty, but you know how they look all dressed up cute, and he could blow the bugle so it said 'Sally.' And he used to write me notes, and hide them in trees, and after supper we'd sit on the porch and talk and talk, just the way Nina does. And the night before he went away he proposed."

"What did he say?"

Sally hesitated and her eyes were tender. "Don't you laugh, and tell Nina?"

"Never."

"Cross your heart, hope to die, if ever you tell you'll lose your eye," chanted Sally.

"Which eye?"

"You're laughing now. I don't care. He was a lovely boy. And he said, 'Sally, let's run away, and never come back any more.' And I said, 'No; I'm sorry to hurt your feelings, but I never will forget you or the honor you have done me as long as I live.' That's what Nina always says. And then I let him kiss me; and he wanted a lock of my hair, so I cut off a piece of Nina's long curl that she tucks on the back of her head when there's a hop. It wasn't just the color of my hair, but he didn't know, and that's what Nina does when they all beg looks of her hair. Why she wouldn't have any left at all, you know. And then I let him kiss me a few times more just to let him know I was really and truly sorry, and he went away. You've got a bite!"

Sheldon did not notice the bobbing cork. He was staring at a white sail

that dipped blithely to the breeze at the north end of the island.

"Isn't that Creston's yacht?"

"The White Ladye? Yes, that's his." She looked at it attentively and sighed. It's just as well you didn't hunt Nina, because she's out there. Creston's splendid. He's got money, too; but that isn't it. I know Nina's in love with him, and it will all be fixed when they come back. I'd never let anybody propose to me on a yacht. Just get nicely started and have the sail flap at you, or something. And no one can handle a yacht when there's proposing, can they? Isn't she going a little toppy now?"

Sheldon said something beneath his breath, and turned back to the contemplation of the cork.

"But Nina won't mind this time. I guess you don't mind anything when you're really in love. He's going South to-morrow if she doesn't say yes. He told me so, and I told Nina last night."

"They have veered around, and are heading for the pier."

"Maybe the bay is rough. You'll never catch a single fish if you bob like that. Maybe I ought not to have told you, but you're the only one of the whole lot that I like, and when I told Nina you were in love with her—that was after you gave me the fishpole, so I knew—and that I wished she'd marry you, she said you were taller than Creston, and a dear boy. And one day I found her crying, and asked her if she was in love, and she threw a pillow at me. And then I asked her if it was you, and she threw two pillows at me. But when I said Creston, she just kept still, and cried, so I knew. They are coming this way."

"Do you think she'll take Creston?" asked Sheldon, without looking up.

"Oh, yes. I asked her, and she laughed and said if she didn't marry him she'd accept the last man who proposed. I wonder who that was. Wallace did last Sunday night, but Nina would rather try the lighthouse pier herself than take Wallace."

Sheldon took one last look at the white yacht bearing down upon him, and suddenly devoted all his attention to the fishpole. There were three impaled beauties to his string when the White Ladye slipped gently along the pier, and when he caught the rope that Creston threw, he was smiling almost cheerfully, and Sally took heart. Nina was cool and sweet in white duck barred in blue, and she smiled back at him as he helped her to the pier.

"Coming, Creston?" he asked.

Creston shook his head, and he raised his cap to her. Sally saw that his face wore the same look that had been on Barton's and the rest when Nina had finished with them; but the hand that held the white duck skirt from contact with the wet sides of the pier wore a single diamond ring and Sally pondered.

"I am going back to the clubhouse," said Creston. "We sail South to-morrow."

When he had gone Sally looked anxiously at Nina. She was smiling dreamily at the retreating yacht.

"Nina"—Sally's tone was low and regretful—"is he really going?"

"Really and truly. I think he is heading for the lighthouse pier this minute—"

Sally reached for the fishpole, which Sheldon had cast aside, and threw out the line carefully.

"Well, I'm sorry for the last one, then," she said.

Sheldon raised a parasol over Nina with proprietary interest, and shut off the view of the yacht as he kissed her.

"Pity me, Sally," he said. "I'm the last one. We were engaged last night."

Sally turned back tactfully, and the white sunbonnet was mirrored in the water.

"Do it again if you want to," she said gently. "I won't peek. Only go away, or you'll scare the fishes."—Izola L. Forrester in Woman's Home Companion.

"Don't you worry 'bout de spots on de sun," said Brother Dickey. "It'll take all de time you kin spare ter git de grease spots off de little worl' you livin' in."—Atlanta Constitution.

### The Butt-'Em-Over People.

Ain't it painful, though, to meet 'em—  
Guess you'll savvy who I mean:  
Sort of folks that's always finding  
Spots on folks you thought were clean.  
Here's the sort of jolts they hand you—  
Sort that gives you lasting hurts:  
"She's a winning little creaturo—  
Ain't it awful that she flirts?"

You may know some jolly fellow  
With a countenance you like—  
Just about as clean a looker  
As you'd ever chance to strike.  
Comes this hammer-arm'd despoiler,  
Always watching out for kinks,  
Saying: "Bully little fellow—  
Simply shameful that he drinks!"

Or some hard-worked fellow being  
That you've learned to know of late,  
Fighting bravely and unaided  
'Gainst a stubborn, frowning fate:  
Just a mention inadvertent  
To this butt-'em-over pest:  
"Acts hard up t' keep it quiet  
"How he's featherin' his nest!"

Then that other chap, whose handclasp  
Oft had saved you from despair—  
Surely there's no blot or blemish  
On his seutecheon white and fair.  
But this human turkey buzzard,  
Seeking stains on every life,  
Sneers: "He's never half so jolly  
When you see him with his wife."

Oh, these butt-'em-over people,  
With their poison-pointed darts  
Aimed always at fellow beings,  
Tearing idols from our hearts!  
When our eyes are blind to failings,  
God, in mercy, keep them blind,  
If to see would start us probing  
For the frailties we might find.

—Baltimore American.

### The Yawn.

Have you ever thought about a yawn—what causes it, what it protests against, what effect it has upon the system?

The yawn is an ingenious little form of exercise of Mother Nature's own devising. It is Nature's own protest against lazy blood, which is not circulating as it should, and against a sluggish system in general.

Look a little closely into it and you will find that human beings do not yawn only when sleepy or bored, as is generally supposed, but when cold or bilious as well.

Chilliness and indigestion produce the same sluggish condition of the blood as drowsiness does, and consequently awaken the same disposition to yawn.

Let the reader who makes an ocean trip look about him on deck some chilly day. He will find that the passenger whose shawls are not wrapped closely around his limbs while he is seated yawns incessantly.

It is not an indication of sleepiness, but of stagnation caused by the cold.

Dyspepsia is another—and very common—cause of yawning.

To understand just how nature exercises the system by this simple little gymnastic course, think about it the next time you find yourself yawning, and analyze the sensations.

You will discover that stretching, loosening, expanding, mild as it is, extends to every part of the body. The tinge of it can even be felt in the toes.

In the entire region of the head we can actually see the physical culture in progress by standing in front of a mirror. The jaw drops, the cheeks are drawn down, the movement is communicated to the brow and scalp. The tongue and throat are affected, as well as the entire neck.

The same relaxation that stimulates lungs and chest is felt a moment later in the abdomen. It requires no stretch of the imagination to feel it subsequently in limbs and feet. Every portion of the body is reached and roused.

Take the hint that nature gives. Regard the growing inclination to yawn as a warning or protest not to be disregarded. When it occurs for any reason but that of insufficient sleep some part of the physical machinery needs attention. Something is affecting the circulation of the blood, and consequently interfering with the work of the lungs.

In most cases of persistent yawning, not induced by the natural lack of



sleep, vigorous exercise, to be taken at once, s required. It will shake off the impending chill, of which the chilly yawn is premonitory, and will do much towards remedying the indigestion which causes another kind.

### The Two Ships.

As I stand by the cross on the lone mountain's crest,  
Looking over the ultimate sea;  
In the gloom of the mountain a ship lies at rest,  
And one sails away from the lea;  
One spreads its white wings in a far-reaching track  
With pennant and sheet flowing free;  
One hides in the shadow with sails laid aback,  
The ship that is waiting for me!  
But, lo! in the distance the clouds break away,  
The gate's glowing portals I see;  
And I hear from the outgoing ship in the bay  
The song of the sailors in glee.  
So I think of the luminous footprints that bore  
The comfort o'er dark Galilee,  
And wait for the signal to go to the shore,  
To the ship that is waiting for me.

—Bret Harte.

### Much Virtue in an Onion.

The idea of an onion cure may not strike the fancy of the esthetic; however, the experience of those who have tried it is that it works wonders in restoring an old, racked system to its normal state again. There are three kinds of doses in the onion cure, or three onion cures, as you may choose to put it. One is a diet of onions, the other is onion plasters, and the third is onion syrup.

It is claimed by those who believe in the onion cure that a bad cold can be broken up if the patient will stay indoors and feed on a liberal diet of onions. It need not be an exclusive diet, but a liberal one. For instance, an onion cure breakfast includes a poached egg on toast, three tablespoonfuls of fried onion and a cup of coffee. Luncheon of sandwiches, made of Boston brown bread, buttered and filled with finely chopped raw onions, seasoned with salt and pepper, makes the second meal on the schedule. For supper the onions may be fried as for breakfast and eaten with a chop and a baked potato.

The strange efficacy of onions is well known to the singers of Italy and Spain, who eat them every day to improve the quality of their voices and keep them smooth. Onion plasters are prescribed to break up hard coughs. They are made of fried onions placed between two pieces of old muslin. The plaster is kept quite hot until the patient is snugly in bed, when it is placed on the chest to stay over night. Onion syrup is a dose that can be bought of any druggist and is claimed by some to be unequalled as a cure for a cold in the chest.

All this is probably quite true. For to be done up with onions, both inside and out, would be enough certainly to chase out any self-respecting cold.—Table Talk.

### Out of Plutarch.

Damocles was sitting beneath the sword.

"But," asked Dyonisius, "ain't you scared at all?"

"Not a bit," replied the brave young man. "I have been under the knife before."

Fondly patting the place where his vermiform appendix had been, he proceeded with the meal.

Nero had ordered his famous conflagration.

"At any rate," he exclaimed, "no one can say my wife and I quarrel over who shall build the fire."

History, however, has overlooked this virtue of the monarch.—New York Sun.

Smith (seeing beggar bearing sign reading "Deaf and Dumb")—I'd like to help this poor fellow, but I don't know how to tell whether he is really

deaf and dumb. Beggar (softly)—Read the sign, mister; read the sign.—Indianapolis Journal.

### Yankee Sardines.

"It is a fact that can't be denied," said a wholesale grocer, "that there are comparatively few imported sardines, and consequently few sardines at all, sold in this country nowadays, and yet not one consumer in a thousand knows the difference, so nearly do the fish sold for sardines approach the genuine, both in appearance and taste."

"Nine-tenths of our sardines come from Maine. There are in Eastport, Me., alone, two dozen or more places where the mock sardine is prepared and boxed, and there are many others at Lubec, Jonesport and many other towns of the Maine coast."

"The business began as long ago as 1876. It was the conception of a couple of sharp and far-seeing New Yorkers. They began at Eastport, not as sardine packers—that was an after thought—but in packing small herring in odd-shaped little wooden kegs, the pickle that preserved them being high with spices. These herring were placed on the market as 'Russian herring,' and for a long time their cheap fish was on the bills of fare of the swell restaurants of this city and elsewhere as the highest-priced relish they served."

"The enterprising New Yorkers made money fast in their venture, but they got the idea that there was more money still in modeling the herring after the sardines put up in France, although some shrewd Yankees had experimented extensively and used up no little capital years before in efforts to work out a similar idea to practical results, but without success."

"They had found it easy to cook the calow, Maine herring, pack it in olive oil in imitation sardine boxes with French labels in imitation of the labels on the imported sardines, and give them every appearance of the genuine imported article; but when this Yankee sardine went to the table its character became at once apparent. The soft, rich flavor of the imported sardine was not there, but only the unmistakable taste of the native herring."

"The Maine experimenters could not discover any means by which the herring flavor could be replaced by that of the sardine, and the business ended in failure; but the smart New Yorkers, after a few experiments of their own, hit upon a mixture or blend of spices and oils for a packing sauce that made a sardine of a herring in a twinkling, and a gigantic industry has sprung from that simple discovery. Not only are sardines made from common herring now, but from young sea trout, a little fish called the moranee, and several other species or varieties of fish, all, perhaps, herrings of a lesser or greater growth."

"The herring, of which the Yankee sardines are made, are never more than 4 inches long, and the catching of them keeps hundreds of people busy along the coast of Maine and New Brunswick."

"The way they are handled at the factory is a sight worth seeing. The fish are taken from the fisheries immediately to the factories. There they are piled in heaps on long tables. I have heard many a rustic boast of the facility with which he can skin a cat-fish, but if he could see some of the boys and girls who work in those sardine factories clean these herring he would never mention his skinning fish again. I watched a seven-year-old girl go through this operation one day and timed her. She beheaded and gutted seventy-five herring every minute for ten minutes, without miss or a halt, and they told me there were hundreds more who could do the same thing and keep it up all day."

"New York is the great wholesale center for these Yankee sardines. Some idea of the magnitude of the business may be had when I tell you that one factory alone in Lubec—and there are other factories doing quite as large a trade—has made and sold as high as two million boxes of sardines in a year, besides the large quantities of sea trout and other brands of transformed herring it disposed of."—New York Sun.

### Hints to Housekeepers.

Flies will not settle on windows that have been washed in water mixed with a little kerosene.

Some persons claim that baked potatoes are more delicious if they are half cooked by boiling before going into the oven.

To remove the squeak from a wicker chair or settle, chalk the parts upon which the friction falls. The same advice holds good with willow hampers.

Flatirons will not rust if they are waxed before they are put away, as the little film of wax prevents the action of the air which produces rust. When the irons have been allowed to rust they should be scoured with a little salt after being rubbed with wax.

Sunburn will yield to a liniment of lime water and linseed oil, which most mothers of little children keep in the emergency closet for burns. A quarter of an ounce of the oil to half a cupful of lime water are the right proportions.

To scallop fish use fish that has already been cooked. Remove all the bones and shred finely. Place a layer in a baking dish and cover with bread-crumbs and finely cut cold boiled potatoes. Season, and, if preferred, a little shredded onion or hard-boiled egg may be added. Repeat until the dish is full. Finish on the top with bread-crumbs and egg. Pour over this a drawn-butter sauce and brown.

The neatest, cleanest and most convenient receptacles for supplies of almost every kind, cereals, rice, coffee, tea, sugar, etc., are common glass jars with screw tops. Ants and beetles will shun a pantry where this system is followed, and it has the special advantage of keeping the cook or housekeeper informed concerning her stock, the transparent jars showing at a glance exactly how much of each article is at hand.

We are accustomed to freshen salads and other vegetables by soaking in cold water, but not every one knows that most fruits are vastly improved by being treated in the same manner. Pears, peaches and like thin-skinned fruits, likewise berries, should never be soaked, but plums, melons, bananas, and even grapes benefit by the process. Tomatoes and cucumbers are made over, so to speak.—New York Post.

## GLENN RANCH,

Glenn County, - - California.

## FOR SALE

## IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eihe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

**WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.**

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

**PRACTICAL ORCHARDIST** would like position as Foreman; 15 years' experience in growing and curing deciduous fruits. Best of references.

C. E. BURNS, Fremont St., San Jose.

**WANTED.**—One or more carloads of Cat Tails, (Flag.) For particulars, call or address Brown & Ahrahm, 330 Market St., Room 510, San Francisco.

**Hunters' & Trappers' Guide** A \$5.000. BOOK. 300 pages, cloth bound, illustrating all fur animals. All about trapping, Trappers' secrets, all kinds of traps, decoys, etc. Special Price \$1.10 for shippers postpaid. We buy Raw Furs, Hides. Price List free. ANDERSON BROS., Dept. 841, Minneapolis, Minn.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

**KEARNEY VINEYARD SYNDICATE**

**KEARNEY PARK, FRESNO, CALIFORNIA**

## STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, November 11, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	79 3/4 @ 78 3/4	78 3/4 @ 78 3/4
Thursday.....	77 3/4 @ 78 3/4	78 3/4 @ 78 3/4
Friday.....	77 3/4 @ 78 3/4	78 3/4 @ 78 3/4
Saturday.....	78 3/4 @ 78 3/4	78 3/4 @ 78 3/4
Monday.....	78 3/4 @ 78 3/4	78 3/4 @ 78 3/4
Tuesday.....	77 3/4 @ 78 3/4	77 3/4 @ 77 3/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	41 3/4 @ 43 3/4	43 3/4 @ 42 3/4
Thursday.....	43 3/4 @ 44 3/4	43 3/4 @ 43 3/4
Friday.....	44 3/4 @ 44 3/4	43 3/4 @ 43 3/4
Saturday.....	44 3/4 @ 44 3/4	43 3/4 @ 43 3/4
Monday.....	44 3/4 @ 43 3/4	43 3/4 @ 42 3/4
Tuesday.....	43 3/4 @ 42 3/4	42 3/4 @ 42 3/4

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 40 1/2 @	\$1 38 1/2 @
Friday.....	1 39 3/4 @ 1 40 1/2	1 38 1/2 @ 1 38
Saturday.....	1 39 @ 1 39 3/4	1 37 3/4 @ 1 37 1/2
Monday.....	1 38 1/2 @	1 37 3/4 @ 1 37 1/2
Tuesday.....	1 38 1/2 @	1 37 1/2 @
Wednesday.....	1 38 1/2 @ 1 37 1/2	1 37 1/2 @ 1 36 3/4

### Wheat.

In quotable values and general tone there are no radical changes to record, nor is there probability of any great fluctuations being experienced during the balance of the season. The outward movement the past week, while far from active, has shown some increase, three ships clearing inside of two days with part wheat cargoes, and taking an aggregate of not quite 2000 tons. More than half of this grain was brought from Oregon and Washington. In a few instances in seasons past there have been single clearances of over 6000 tons of California wheat, but there is not likely to be a repetition of such shipments. Wheat growing in this State has been cut down to comparatively small proportions in the past ten years, large areas which had been seeded to this grain being now devoted to fruit and other crops giving generally more satisfactory results than wheat. If prices could be maintained at current levels, there would be good money in growing wheat on much of the land of California, but there is no assurance of prices long remaining at profitable figures. If there was a large surplus in the State now, it is doubtful if shipping wheat would command \$1.25 per cental, delivered at tide water. With ocean tonnage in excessive supply and freight rates down to the lowest figures on record and which do not cover the expenses of running the ships, foreign markets hardly justify the prices now realized here in a limited way, despite the present small east of freighting wheat to the importing countries of Europe. In growing wheat for importing countries, it is necessary to come into competition with some of the cheapest land and the cheapest labor in the world.

California Milling.....\$1 42 1/2 @ 1 52 1/2  
Cal. No. 1 shipping, alongside.....1 37 1/2 @ 1 40  
Oregon Club.....1 37 1/2 @ 1 42 1/2

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.40 1/4 @ 1.37 1/2.  
May, 1904, delivery, \$1.38 1/2 @ 1.36 1/4.  
Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.38 1/4 @ 1.37 1/2; May, 1904, at \$1.37 1/2 @ 1.36 1/4.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	65 5/4 @ 68 5/4	s-d @ s-d
Freight rates.....	15 @—	11 1/4 @ 12 1/4
Local market.....	\$1 30 @ 1 35	\$1 37 1/2 @ 1 42 1/2

### Flour.

The outward movement is lighter, which was to have been expected, as recent shipments to Asia have been decidedly above the normal, heavy quantities being sent under the low freight rates which ceased on the first of the month. That the advanced rates for carrying flour to China, now about \$5 per ton, will long remain in force is not considered probable, owing to the importation of coolies into Mexico having been resumed, creating a greater demand for return cargo from this coast. Local trade is of fair volume and at generally unchanged values.

Superfine, lower grades.....	\$3 00 @ 3 25
Superfine, good to choice.....	3 35 @ 3 50
Country grades, extras.....	4 00 @ 4 25
Choice and extra choice.....	4 25 @ 4 50
Fancy brands, jobbing.....	4 50 @ 4 75
Oregon, Bakers' extra.....	3 50 @ 4 00
Washington, Bakers' extra.....	3 50 @ 4 15

### Barley.

The export movement in this cereal continues of liberal proportions, and is limited only by the trouble in securing the grain in wholesale quantities at prices the shipper feels warranted in paying. But there are no evidences of any great quantities remaining in first hands. The market shows a generally firm tone, and

that there will be particular weakness developed during the balance of the season, even with favorable crop weather, is not probable. All surplus stocks are likely to be out of the State long before the opening of the coming season. Barley is now the leading cereal of California, having been of recent years more profitable generally than wheat. There has been for several years past an active European demand for our barley, and occasional heavy shipments are made to Australia as well as to the Atlantic side of the United States. The Chevalier variety is not now commanding the premium it once did, owing to the common variety maturing here to an exceptionally high state, and making it very desirable for malting and brewing.

Feed, No. 1 to choice.....	\$1 13 3/4 @ 1 16 1/4
Feed, fair to good.....	1 12 1/2 @ 1 13 3/4
Brewing, No. 1 to choice.....	1 17 1/4 @ 1 22 1/4
Chevalier, No. 1 to choice.....	1 37 1/2 @ 1 47 1/4
Chevalier, common to fair.....	1 12 1/2 @ 1 32 1/4

### Oats.

Recent arrivals have been of rather light proportions. There are no large quantities held here in storage, spot stocks being lighter than a month ago. Especially are prevailing prices being well maintained on desirable seed qualities, the proportion of offerings of this description being decidedly light.

White oats, fancy feed.....	\$1 32 1/2 @ 1 35
White, good to choice.....	1 25 @ 1 30
White, poor to fair.....	1 20 @ 1 22 1/2
Milling.....	1 27 1/4 @ 1 32 1/4
Surprise, good to choice.....	1 25 @ 1 35
Black Russian feed.....	1 20 @ 1 35
Black for seed.....	1 50 @ 1 65
Red, fair to choice.....	1 20 @ 1 35

### Corn.

Spot stocks are of small proportions, and are principally Eastern product, much of it mixed White and Yellow of the large variety. There is hardly enough small Yellow to admit of quotations. Latest sales of latter were at about \$1.50. While buyers are not taking hold of large corn very freely at full current figures, they meet with poor success in endeavoring to obtain noteworthy concessions in their favor.

Large White, good to choice.....	\$1 32 1/2 @ 1 37 1/2
Large Yellow.....	1 32 1/2 @ 1 37 1/2
Eastern, in bulk.....	1 22 1/2 @ 1 27 1/2

### Rye.

Market for this cereal is ruling steady, there being no heavy offerings and no undue pressure to realize.

Good to choice, new.....	\$1 25 @ 1 30
--------------------------	---------------

### Buckwheat.

Local dealers and millers are better stocked with this cereal than for some time past. While there is an easier tone, values remain quotably as last noted.

Good to choice.....	\$1 90 @ 2 25
---------------------	---------------

### Beans.

The same absence of firmness last noted as prevailing in the bean market continues to be experienced, few shipping orders being at present received from any quarter, and the majority of local handlers are fairly well stocked for the time being. Under selling pressure, full current quotations could not be realized, while if an active demand should set in, an advance on these prices would very likely have to be paid. It is the exception where holders are crowding stocks to sale at the inside prices now ruling. Present offerings are mainly Large Whites, Bayos, Pinks, Black-eyes and Limas.

Pea, fair to good, 100 lbs.....	\$2 75 @ 3 00
Small White, good to choice.....	3 00 @ 3 25
Large White.....	2 25 @ 2 50
Pinks.....	2 15 @ 2 35
Bayos, good to choice.....	2 25 @ 2 40
Red Kidneys.....	1 00 @—
Reds.....	2 75 @ 3 00
Limas, good to choice.....	2 85 @ 3 00
Black-eye Beans.....	2 25 @ 2 35
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, Small.....	1 25 @ 1 50

### Dried Peas.

Aside from the Humboldt crop, there are few Dried Peas in the State. The Humboldt growers are very firm in their views, believing they have control of the situation. There is a probability, however, of local millers importing stocks from the East, as they have done in some former years.

Green Peas, California.....	2 00 @—
Niles Peas.....	2 30 @—

### Hops.

There are few hops being offered here from first hands, and reports from the country are to the effect that no large lots are now being held by growers in the interior. The market for desirable qualities is ruling tolerably firm at the quotations noted. California's last crop was of good average quality. Oregon has some moldy hops which are dragging at a low range of prices, being quoted down to 15c. The New York Producers' Price Current reviews the market as follows: "Trading between dealers on the local market has been of small volume, but brewers have been moderate buyers, a number of lots

going out of town, and exporters have had some orders in hand. With moderate offerings prices have ruled steady on prime and choice qualities, but the lower grades are weaker and dull. This year's crop is a very irregular one in point of quality and this makes rather a ragged market. We have widened the range of quotations to cover current business, and our figures are full high at the present writing. Probably the bulk of the State hops can be bought in range of 28c @ 30c., and the major part of the Pacific coast stock at 23c @ 27c.; choice shipping hops from any section would bring a little more. In New York State there has been a steady holding at 26c @ 30c., but with very moderate business. Mail advices from London report considerable business, quite a number of the low grade being taken for export to the continent at about £4."

California, good to choice, 1903 crop.....	20 @ 23
--	---------

### Wool.

Nothing of consequence doing in the local market in the way of transfers from first hands, and very little business reported in the interior. Recent bids of local operators have been not only decidedly low, but have shown an absence of competition, making it appear as though there was a combine to depress prices. The recent declines in prices named by dealers certainly do not seem to be warranted by any recent changes in conditions East. A shipment of 93,330 lbs. went forward by steamer for New York.

### FALL.

Humboldt and Mendocino.....	11 @ 13
Mountain, free.....	9 @ 11
San Joaquin Plains.....	7 @ 10

### Hay and Straw.

Market continues firm for best qualities of horse hay, but for the common grades of stable hay and also for Alfalfa is barely steady. Offerings are largely of Alfalfa and common stable stock. Choice to select Wheat hay is in light supply. Straw has been arriving a little more freely lately, but is not quotably lower.

Wheat, good to choice.....	\$13 50 @ 16 50
Wheat and Oat.....	13 50 @ 15 50
Oat, fair to choice.....	11 00 @ 14 50
Barley.....	10 00 @ 13 00
Clover.....	10 50 @ 11 50
Alfalfa.....	9 50 @ 11 00
Stock hay.....	9 00 @ 9 50
Compressed.....	13 50 @ 16 50
Straw, 3 bale.....	55 @ 65

### Millstuffs.

Large arrivals of Bran from the north imparted a weak tone to the market. Middlings continued to be offered rather sparingly and current values for the same are being tolerably well maintained. Rolled Barley is being steadily held. Market for Milled Corn shows no appreciable change.

Bran, 3 ton.....	\$20 00 @ 21 00
Middlings.....	24 00 @ 27 50
Shorts, Oregon.....	21 00 @ 22 50
Barley, Rolled.....	24 00 @ 26 00
Cornmeal.....	30 00 @ 31 00
Cracked Corn.....	30 50 @ 31 50

### Seeds.

Stocks of Alfalfa are showing some increase, but are far from being heavy, either of Utah or California product. There is a fair demand and market is moderately firm at the comparatively high prices current. Some growers are giving California seed the preference at same figures as ruling on imported, stating that they get better results from the home seed. Mustard is ruling steady with spot stocks light. Bird Seeds are being held at generally unchanged values, with business mainly of a light jobbing character.

	Per cwt.
Alfalfa, Cal., good to choice.....	\$14 00 @ 15 00
Alfalfa, Utah.....	15 00 @ 16 00
Flax.....	2 00 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25
	Per lb.
Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/4
Hemp.....	3 @ 3 1/2
Timothy.....	6 @ 6 1/2

### Honey.

There is not much water white honey on the market, either Combor Extracted, and such is being as a rule quite firmly held. Spot stocks of amber grades are of only moderate volume, and on the decrease in consequence of the recent few shipments outward. The steamer Peru, sailing from here on Saturday last, took 400 cases Extracted for New York. Shipments by sea from this port last month aggregated 2052 cases, and for the season to date foot up 3750 cases. Trade on local account is fully up to the average.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	4 1/2 @ 5
Extracted, Amber.....	4 @ 4 1/2
Extracted, Dark Amber.....	3 1/2 @ 4
White Comb, 1-frames.....	13 @ 14
Amber Comb.....	9 @ 11

### Beeswax.

Demand is fair, mainly for shipment, and for desirable qualities values are ruling steady. There are no heavy offerings, either on the spot or for forward delivery.

Good to choice, light 3 lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### Live Stock and Meats.

Choice Beef is not in large supply and is meeting with ready sale at full current figures. For common grades the market is barely steady. Veal market is moderately firm for desirable sizes. Mutton is in decreased receipt, but for other than choice Wethers and Ewes market cannot be said to show much firmness. Lamb now on market is mostly heavy, values for which are steady; choice Small would bring an advance on quotations. Hog market has declined fractionally the past week. Desirable packing stock, large sizes preferred, is being absorbed at current rates about as rapidly as received.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 3 lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6
Beef, 3rd quality.....	4 @ 5
Mutton—ewes, 7 1/2 @ 8c; wethers.....	8 @ 8 1/2
Hogs, hard grain, 150 to 250 lbs.....	5 1/2 @ 5 5/4
Hogs, large, hard, over 250 pounds.....	5 @ 5 1/4
Veal, small, 3 lb.....	8 1/2 @ 9 1/2
Lamb, Spring, 3 lb.....	9 @ 10

### Hides, Skins and Tallow.

There have been no special changes in quotable values for Wet Salted hides, but market cannot be termed firm. Dry hides are in fair request and prices steady. Tallow is meeting with tolerably prompt custom at quotably unchanged figures.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	9 @—	8 @—
Medium Steers, 48 to 56 lbs.....	8 @—	7 @—
Light Steers, under 48 lbs.....	7 1/2 @—	6 1/2 @—
Heavy Cow Hides, over 50 lbs.....	8 @—	7 @—
Light Cow Hides, under 50 lbs.....	7 1/2 @—	6 1/2 @—
Stags.....	5 1/2 @—	4 1/2 @—
Wet Salted Kip.....	— @ 9	— @ 8
Wet Salted Veal.....	— @ 10	— @ 9
Wet Salted Calf.....	— @ 11	— @ 10
Dry Hides.....	15 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs.....	— @ 13	— @ 12
Dry Calf, under 4 lbs.....	— @ 18	— @ 16
Pelts, long wool, 3 skin.....	— @ 100	— @ 80
Pelts, medium, 3 skin.....	— @ 70	— @ 60
Pelts, short wool, 3 skin.....	— @ 40	— @ 30
Pelts, shearing, 3 skin.....	— @ 15	— @ 25
Horse Hides, salted, large prime, each.....	— @ 2	— @ 2 75
Horse Hides, salted, medium.....	— @ 2	— @ 2 50
Horse Hides, salted, small.....	— @ 2	— @ 2 00
Horse Hides, dry, large.....	— @ 1	— @ 1 75
Horse Hides, dry, medium.....	— @ 1	— @ 1 50
Horse Hides, dry, small.....	— @ 1	— @ 1 25
Tallow, good quality.....	— @ 4 1/4	— @ 4 1/2
Tallow, poorer grades.....	— @ 2 1/2	— @ 3 1/2

### Bags and Bagging.

The same inactivity previously noted is prevailing in this department, and there is not likely to be any material change in this regard for some weeks to come.

Bean Bags.....	\$ 4 1/2 @ 5
Fruit Sacks, cotton.....	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Fruit Sacks, Calcutta, 22x30, spot.....	5 @ 5 1/4
Grain Bags, San Quentin, in lots of 2000.....	5 @ 5 1/2
Wool Sacks, 4-lb.....	32 @—
Wool Sacks, 3 1/2-lb.....	30 @—

### Poultry.

Choice young chickens and large fat Hens have been favored with a moderately firm market most of the week under review. Turkeys averaged a little lower than previous week, but the outlook is favorable for a good market on Thanksgiving account, very few being expected from the East, the market there being lightly stocked and firm. Ducks and Geese were not in heavy receipt and were in fair request, choice young receiving the preference. Pigeon market was firm for fine young, but for old the inquiry was light.

Turkeys, dressed, 3 lb.....	\$ 20 @ 23
Turkeys, young gobblers, 3 lb.....	18 @ 20
Turkeys, young hens 3 lb.....	17 @ 19
Turkeys, old, 3 lb.....	14 @ 16
Hens, California, 3 dozen.....	4 50 @ 5 50
Hens, large.....	4 50 @ 5 50
Roosters, old.....	4 50 @ 5 00
Roosters, young (full-grown).....	4 50 @ 5 50
Fryers.....	4 50 @ 5 50
Broilers, large.....	3 00 @ 3 50
Broilers, small to medium.....	2 75 @ 3 25
Ducks, old, 3 dozen.....	4 00 @ 5 00
Ducks, young, 3 dozen.....	5 00 @ 6 00
Geese, 3 pair.....	1 75 @ 2 00
Goslings, 3 pair.....	2 00 @ 2 25
Pigeons, old, 3 dozen.....	1 00 @ 1 25
Pigeons, young.....	2 00 @ 2 25

### Butter.

Market is firm and higher for strictly choice to select fresh, there being little of this sort now coming forward. Common qualities of fresh are in fair supply and are not receiving much attention, cold storage stock being taken in preference to ordinary fresh. There is no scarcity of held butter, either home product or Eastern,

Creamery, extra, 3 lb.....	31 @ 32
Creamery, firsts.....	27 @ 29
Creamery, seconds.....	24 @ 25
Dairy, select.....	23 @ 24
Dairy, firsts.....	22 @ 23
Dairy, seconds.....	20 @ 21
Cold storage.....	23 @ 25
Mixed Store.....	18 @ 20



Cheese.

Stocks of flats are liberal and for the general run of offerings the market is slow and weak. Extra mild of high grade is selling in a limited way to fair advantage. Business in small cheese is mostly of a jobbing character, stocks being too light to admit of wholesale operations.

California, fancy flat, new.....	13 @13½
California, good to choice.....	11½ @12½
California, "Young Americas".....	13½ @14
Eastern.....	14 @15½

Eggs.

There has been a slightly firmer tone to the market for fresh eggs, under light offerings, but inquiry was mainly for most select. A few favorite marks of uniformly large and white eggs sold up to 45c in a small way to special custom. Mixed colors and irregular sizes of fresh stock were not eagerly sought after. Aside from fancy fresh, the run was mainly on Eastern and cold storage eggs, with latter in ample supply.

California, select, large, white and fresh.....	42½ @44
California, select, irregular color & size.....	35 @40
California, good to choice store.....	24 @30
Eastern.....	24 @30

Vegetables.

Most kinds of fresh vegetables were in light receipt, and it was the exception where offerings were strictly choice or suitable for the most particular trade. Choice Peas were scarce. String Beans were in moderate supply. Over-ripe Tomatoes were plentiful and cheap, but there were few of any other sort. Summer Squash was hardly quotable in a regular way. Tendency on Onions was to firmer figures than lately current, offerings showing decrease.

Beans, Lima, ½ lb.....	3¼ @ 4¼
Beans, String, ½ lb.....	2 @ 3¼
Cabbage, choice garden, ½ 100 lbs.....	60 @ 65
Cucumbers, ½ large box.....	40 @ 65
Egg Plant, ½ box.....	40 @ 65
Garlic, ½ lb.....	4 @ 5
Onions, Australian Brown, ½ cental.....	85 @ 1 00
Onions, Yellow Danver, ½ cti.....	75 @ 90
Okra, Green, ½ small box.....	40 @ 65
Peas, Sweet Garden, ½ lb.....	2¼ @ 3¼
Peppers, Green Chile, ½ box.....	35 @ 60
Peppers, Bell, ½ box.....	40 @ 65
Summer Squash, ½ large box.....	60 @ 75
Tomatoes, Bay, ½ large box.....	30 @ 60

Potatoes.

Spot supplies were more liberal than preceding week, due mainly to increased receipts from outside points, Oregon forwarding in larger quantity than at any previous date the current season. A few potatoes of superior quality brought comparatively good figures, but the market as a whole lacked firmness. Ordinary stock averaged lower than last quoted. Sweets arrived rather freely and market presented an easy tone.

Sacramento River Burbanks.....	\$ 50 @ 80
Salinas Burbanks, ½ cental.....	1 10 @ 1 35
Petaluma and Tomales Burbanks.....	60 @ 90
Oregon Burbanks.....	65 @ 1 00
Sweets.....	1 25 @ 1 35

Fresh Fruits.

Apples continue in good supply, but the proportion of offerings of choice to select quality is by no means large. The range of quotable values remained about as last noted, with market firm at ruling rates for best 4-tier stock, but slow and weak for common qualities. There are some very low grade Apples on the market, for which it is about impossible to get any sort of an offer. For very fancy Oregon Spitzenberg \$2.25 was asked, but this figure was not warranted as a regular quotation. Winter Nels Pears in fine condition were in good request and were quotable up to \$1.50 per box, while for some small and green and poorly packed 75c. per box was a quotable extreme not readily obtainable. Persimmons moved rather slowly at quotably unchanged rates. Pomegranates did not make much of a showing, neither was the demand for this fruit very brisk; prices continuing about as last noted. Grapes were in decreased receipt and showed effects of rain. The most active inquiry was for shipment and choice in crates sold to best advantage. Arrivals of Strawberries and Raspberries were of quite moderate volume, and for such as were choice the market ruled firm. Tendency of Cranberries was to firmer figures, more especially for the highest grades of imported.

Apples, fancy, ½ 4-tier box.....	\$ 1 25 @ 1 00
Apples, good to choice, ½ 50-box.....	65 @ 1 00
Apples, common to fair, ½ 50-box.....	25 @ 60
Cranberries, Coos Bay, ½ box.....	2 50 @ 3 00
Cranberries, Eastern, ½ bbl.....	10 00 @ 11 25
Figs, ½ box.....	40 @ 1 00
Grapes, ½ crate.....	50 @ 85
Grapes, ½ small box.....	30 @ 50
Grapes, ½ large open box.....	75 @ 1 50
Pears, Winter Nels, ½ box.....	75 @ 1 50
Pears, other varieties, ½ box.....	40 @ 75
Persimmons, ½ box.....	50 @ 1 00
Pomegranates, ½ small box.....	50 @ 75
Raspberries, ½ chest.....	5 00 @ 7 00
Strawberries, Longworth, ½ chest.....	6 00 @ 10 00
Strawberries, Melinda, ½ chest.....	2 50 @ 6 00

Dried Fruits.

While there has been a heavy outward movement the past week, especially of prunes to Europe, there is no evidence of much immediate business in a wholesale way in dried fruits of any description.

Dealers report the market dull, and claim that tenders by wire to Eastern centers of carload lots, straight and mixed, at low figures, fail to meet with acceptance. Jobbers throughout the East appear to be fairly stocked for the time being and do not care to anticipate future needs to any great extent. After dealers are through with their Thanksgiving trade, they will likely be again in the market as buyers, replenishing their stocks for the mid-winter holidays. Quotable values remain virtually as last noted, but they are largely nominal at this date. Under selling pressure full figures quoted could not be realized. At the same time, to purchase freely, these prices or better would have to be paid. Apples are in fairly liberal supply. Apricots are not offering in great quantity from first hands, nor do stocks held by dealers aggregate very large proportions. Peaches are offering in sufficient quantity to admit of considerable trading in this fruit, and the quality is of high average. Pears of choice to select quality are scarce, and this is one description of fruit for which there is no trouble in securing custom at good figures. Pitted Plums are in light supply and market for same firm at ruling values. Comparatively low prices on foreign Figs are affecting the market for the California product. Smyrnas are quoted in New York at 6@11½, latter figure for fancy in boxes. Small Prunes have been selling lately to relatively better advantage than the large sizes. Large Santa Claras were this week offered on the basis of 2½c for the four sizes. Small Prunes are not readily obtainable on the 3c basis for the four sizes. Dried fruit shipments by sea the past week were close to 3,000,000 pounds, largely Prunes. One steamer took 1,906,000 pounds Prunes, principally for Europe.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 @ 4¼
Apples, extra choice to fancy, 50-lb boxes.....	5 @ 5¼
Apricots, Moorpark.....	8 @ 11
Apricots, Royal, good to choice, ½ lb.....	7 @ 8
Apricots, Royal, fancy.....	8½ @ 9
Figs, 10-lb box, 1-lb cartons.....	55 @ 75
Nectarines, ½ lb.....	4 @ 5
Peaches, unpeeled, fair to good.....	4½ @ 5
Peaches, unpeeled, choice.....	5½ @ 6
Peaches, unpeeled, fancy.....	6¼ @ 7
Peaches, unpeeled, extra fancy.....	7¼ @ 8
Peaches, peeled.....	10 @ 12½
Pears, halves, fancy.....	9 @ 10
Pears, halves, choice.....	6½ @ 7¼
Pears, halves, fair to good.....	5½ @ 6½
Plums, Black, pitted.....	5 @ 6
Plums, Red and Yellow.....	7 @ 8
Prunes, Silver, good to fancy.....	5 @ 7
Prunes, in bags, 4 sizes, 2¼ @ 2½c; 40-50s, 4¼ @ 5c; 50-60s, 3¼ @ 4c; 60-70s, 3¼ @ 3½c; 70-80s, 2¾ @ 3c; 80-90s, 2¼ @ 2½c; 90-100s, 2 @ 2¼c; small, — @ —c.	

COMMON SUN-DRIED.

Apples, sliced.....	3¼ @ 3½
Apples, quartered.....	3¼ @ 3½
Figs, White, in bulk.....	3 @ 5
Figs, Black, in sacks, ½ lb.....	3 @ 4¼

Raisins.

The wholesale market is exceedingly quiet. Since the last revision of Association prices there has been little movement from first hands. Jobbers are reducing their present stocks, being favored with a fair demand on Thanksgiving account, mainly for seeded stock and clusters.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5¼c. per lb.; 3-crown, 5½c. 4-crown, 6¼c.; Seedless Muscatels, 4¼c.; 10 floated, 4¼c.; unbleached Sultanias, 4¼c.; Thompson's Seedless, 5¼c.; London Layers—2-crown, \$1.25; 3-crown, \$1.35; 4-crown, clusters, \$2.00; 5-crown Dehesas, \$2.50; 6-crown Imperial, \$3.00; Malaga, loose, 2-crown, 5c. per lb.; 3-crown, 5½c.; Valencia, dried, 4¼c.; Pacific do, 3¼c.; Oriental do, 2¼c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7½c.; 12-oz. packages, fancy, 6½c.; choice, 6¼c.; in bulk, fancy, 7¼c.; choice, 7½c.

Citrus Fruits.

Oranges of both old and new crop are on the market, but not in heavy quantity. The last of the Valencias are said to be now in, and choice are meeting with a firm market. A car of new Navels from Porterville is at hand. Parker Whitney Navels from Placer are offering at \$3 per box. A carload of new Jaffas arrived from Palermo, and some sales were made at \$2.75@3.00 per box. New Tangerines from Oroville brought in a limited way \$1.75@2.00 per half box. Lemon market was without quotable change, but for best qualities current values were well maintained, with demand fair. Limes were in sufficient supply for current needs and prices were without improvement.

Oranges, Washington Navels, ½ box.....	\$2 50 @ 3 50
Oranges, Jaffa, ½ box.....	2 75 @ 3 00
Oranges, Valencias, ½ box.....	2 00 @ 3 50
Lemons, California, select, ½ box.....	2 25 @ 2 50
Lemons, California, good to choice.....	1 50 @ 2 00
Lemons, California, fair to good.....	1 00 @ 1 50
Grape Fruit, ½ box.....	1 50 @ 3 00
Limes, Mexican, ½ box.....	4 00 @ 4 50

Nuts.

The Almond market is quiet, but is not especially favorable to buyers. Spot offerings are now mostly from the hands of wholesalers and jobbers. The Walnut market is in the main firm, although some soft-shells outside of the Association stocks are being offered at 12½c, Peanut market is steady, with stocks of moderate volume, mostly imported.

California Almonds, shelled.....	15 @ 18
California Almonds, paper shell.....	10 @ 12
California Almonds, soft shell.....	7 @ 8
California Almonds, hard shell.....	5 @ 6
California Walnuts, soft shell.....	12½ @ 13½
California Walnuts, standard.....	11 @ 12
Chestnuts, California-Italian.....	10 @ 12½
Peanuts, fair to prime.....	4½ @ 5½
Peanuts, Eastern, hand-picked.....	5¼ @ 6½

Wine.

Little doing in the wholesale wine market, which is not surprising, it being virtually between seasons. Prices for this year's wines have not yet been established. The vintage of 1903 is reported to be above the average in quality, owing to the exceedingly favorable weather during the time the grapes were maturing. It is the belief of experts that those who can afford to carry this year's product for several seasons will find it to their interest to do so. Quotations for last year's dry wines remain nominally 15@18c per gallon wholesale. Receipts of wine at San Francisco last week were 349,150 gallons, and for preceding week were 293,100 gallons. The German steamer Ramses, sailing on 7th inst., carried 86,264 gallons, mainly for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sks.....	103,875	2,221,393
Wheat, cts.....	28,648	813,531
Barley, cts.....	184,316	3,285,432
Oats, cts.....	22,593	543,043
Corn, cts.....	1,914	21,171
Rye, cts.....	1,930	26,608
Beans, sks.....	55,151	382,979
Potatoes, sks.....	34,759	459,679
Onions, sks.....	2,750	78,625
Hay, tons.....	3,107	87,905
Wool, bales.....	1,783	28,511
Hops, bales.....	1,365	18,921

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sk.....	69,020	1,566,372
Wheat, cts.....	11,264	338,545
Barley, cts.....	187,115	2,835,059
Oats, cts.....	65	10,111
Corn, cts.....	20	6,535
Beans, sks.....	1,453	14,614
Hay, bales.....	1,404	66,180
Wool, lbs.....	111,105	1,469,264
Hops, lbs.....	7,673	293,928
Honey, cases.....	282	2,608
Potatoes, pkgs.....	1,170	33,525

Systematic Pomology.

California is getting old enough in fruit growing to develop a number of students of systematic pomology, and those having tastes in that direction will be helped to develop them by a new book entitled "Systematic Pomology," by F. A. Waugh, professor of horticulture and landscape gardening, Massachusetts Agricultural College. Illustrated, 5x7 inches, about 250 pages, cloth; published by the Orange Judd Co. The book treats exhaustively of the methods of describing fruits, of the perplexed systems of nomenclature, of the practical and scientific classification of varieties, of the scoring and judging of fruits, of the laboratory study of fruits, etc. The arrangement and treatment are such as to make the book particularly helpful to students and to all who want to learn more about fruits. This is not so much because the book deals out information as because it gives one the method of finding out things for himself. It will be of great value as a text book and laboratory guide, as a manual for committees in horticultural societies, and as a guide to nurserymen and fruit growers who care anything for varieties. The book can be ordered through the PACIFIC RURAL PRESS for \$1 per copy, postpaid.

LOS CATOS--THE GEM CITY.

Property for sale in the town and its suburbs; the center of the fruit belt, beautiful for location, climate unexcelled. 6½ acres ¼ mile from depot, on Saratoga road; a snap..... Price \$1500 13 acres 1 mile out; in orchard; comfortable residence.....\$3500 1 acre close in; elegant improvements; large house.....\$4500 26 acres, summer resort, 4 miles out, part in orchard; a bargain; near station.....\$3500 Extra bargain, right in town, 12-room house, well kept grounds.....\$6500 In heart of town, beautiful residence, well kept grounds.....\$3000 5-acre tract close in, with orchard.....\$2000 One same size adjoining.....\$1800 5-acre full bearing orchard, fine improvements, 2½ miles out, large house, only.....\$3000

JOHN F. BYBEE Palo Alto, Santa Clara County, Cal.

# MALTHOID ROOFING



The new high grade roofing for low cost work. On sheds, factories, warehouses, barns, depots, wharves. All buildings of large roof surface that require protection from the elements. A better roofing at the same price has never been produced.

Send for booklet.

## The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



# A Constant Force

on the nozzle, a fine spray and thorough agitating of the mixture, all from driving along the orchard row, with

## WALLACE'S POWER SPRAYER

It fits any wagon gear and attaches to any shape supply tank. Saves 25% of liquid and half the labor of operating. High pressure through compressed air—enough to keep two 4 point Vermorel nozzles going. Only hand work is directing the nozzle. Write for free booklet \$1 WALLACE MACHINERY CO. Champaign, Ill.

# California Business College



## A Position or Your Money Back.

A business education pays when you can turn it into cash. We want to help you make it pay. With over 500 positions to fill a year, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

R. L. DURHAM,

305 Larkin St., San Francisco, Cal.

# HEALD'S

## BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School

West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

## HORSE - BREEDING RECOLLECTIONS.



By Count Lehendorff, the manager of the Government stud of Germany, who has made a special study of the intricacies of horse breeding, and in the volume before us, embodies the result of years of careful study. While all may not agree with his conclusions, none will dispute the value of his observations. Size, 5½x8½ inches. Bound in full cloth. \$1 postpaid.

Address PACIFIC RURAL PRESS, 330 Market St., San Francisco, Cal.





### Horse Owners Know

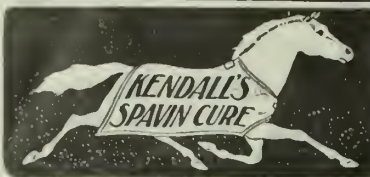
from long experience in treating such characteristic ailments of the horse as Spavins, Ringbones, Splints, Curbs and all forms of Lameness that the one reliable remedy is

### Kendall's Spavin Cure.

Ferrisale, Wash., Dec. 17, '02.

Dr. B. J. Kendall Co.,  
Gentlemen—We would like to have two copies of your book "A Treatise on the Horse and his Diseases." We use lots of your Kendall's Spavin Cure in our livery camps and also on our light harness horses, and it has cured many horses for us. We want a book for each camp. Thanking you in advance, we are,  
Yours truly,  
J. W. DAVIS & SON.

Price \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address  
DR. B. J. KENDALL CO., ENDSBURG FALLS, VT.



## THE VINEYARD.

### The Government Work in California.

Mr. George C. Husmann, in charge of viticultural investigation for the U. S. Department of Agriculture, Washington, who has been in California during the vintage season engaged in locating United States viticultural experimental stations throughout the State, to be operated in co-operation with the viticultural department of the State University, has given the Wine and Spirit Review an outline of the work laid out by the Department of Agriculture:

**THREE LARGE STATIONS.**—We have succeeded in locating nine stations in all. At each of the three larger ones twenty acres have been set aside for investigations. One of these is at Oakville, in Napa county, on the To-Kalon vineyards; another at Fresno, in Fresno county, on the Fresno vineyards, and the third at Cucamonga, in San Bernardino county, on the vineyards of the Italian Vineyard Co. The Oakville station is intended to be made a station for testing all wine varieties, it being the intention of the Department to introduce them from all parts of the globe, wherever we hear of anything of value in the wine line. The station at Fresno will look more closely into the raisin and currant tribes, bringing them also from all parts of the world. The station has been established in the Cucamonga district to investigate the conditions we find in a desert land, a new departure of investigation.

**SIX MINOR STATIONS.**—In the six minor districts ten acres have been set aside for investigations. They are located as follows: At Livermore, in Alameda county, on C. H. Wentz's vineyards; at Sonoma, in Sonoma county, on the Rhine farm property of the Gundlach-Bundschu Wine Co.; at Mountain View, in Santa Clara county, on B. Distel's vineyards; at Lodi, in San Joaquin county, on E. H. Lawrence's vineyards; at Concord, in Contra Costa county, on the Brookside vineyard, and at Geyserville, in Sonoma county, on J. T. Bosch's vineyards. These last six stations have been selected with special reference to soil and climatic conditions, and at each of them we intend to take up the study of the phylloxera resistant vines. All of these, possessing, as they do, different soil conditions, and having also climatic differences, we intend to adjust these climatic differences to the soil conditions, and later on to take up the question of affinities. We have also selected these districts with reference to the various types of wines we expect to produce in these different localities, taking as a Sauterne district the Livermore station, Sonoma as the white wine district, and Mountain View for the Hock types, on the deep gravel soil; at Lodi we will give attention principally to table grape production; at Concord we will touch up the clay

and adobe soils and give attention also to the lime conditions; at Geyserville we will concern ourselves more particularly with the foothill soils and the shallow soils with the hard pan or clay sub-soils; here it is the intention to go principally into the production of red wine grapes.

**THE PLANTINGS.**—I would state further that at each of these six districts last mentioned, it is the intention to plant this coming spring, in planting time, an acre of probably sixty-six different varieties of resistant vines, ten vine-checks of each. These will be selected with special reference to the conditions under which we expect them to thrive, and by putting out as extensive a collection as this we hope to get some readings which will bear directly on the phylloxera existence proposition. As soon as any of these vines come out in any way satisfactorily we will plant heavily and go into the question of affinity.

**THE UNDERTAKING.**—This work is of a broad nature; this is simply a start. We shall take up the different questions as they present themselves. We now have before us some questions which are probably just as serious as the phylloxera of the vine; one or two of them I consider of more importance. What I wish to dwell on particularly is the fact that we have now located these nine stations, which ought to give us very good readings in regard to the nine principal soils and climatic conditions that exist in the State. But I have found on this trip, and after having lived in California for twenty-five years, that one of the most difficult things to be done is to select any one condition, because California is so immense in her resources and so widely divergent in her climate and soils that it would be impossible to select any more than generally representative soils—there are so many minor conditions.

We would like especially to get in touch with the people, and desire parties in different localities to place themselves in connection with us, so that we may give them all assistance possible towards testing at individual places, on their own account, the resistance of different varieties of wine producing grapes. We wish to work out these districts on similar lines as they have been worked in Germany.

**THE OUTLOOK.**—We believe that California has a wine and grape producing area that is equal to the entire State of France. While a number of prizes were taken by American wines at the Paris Exposition, I am of the opinion that it was largely the result of chance. Still, there are readings here which show us what can be done, and I believe that with such readings as we already have, we ought to produce not only as fine wines as any of the European countries, but with our virgin soil (not already exhausted by centuries of use for vineyard purposes), we ought to produce finer wines than they. That is why the Department is desirous that these people place themselves in communication with us. We are here for actual work, for their interests, and we want to help them develop the conditions as rapidly as possible.

One thing I wish to call special attention to is, that the plantings now being made, especially in those districts where grape growing is carried on most extensively, have been almost entirely of non-resisting stock. With the phylloxera in the State, as we have had it for upwards of twenty-five years, it seems to me that this procedure is somewhat in the nature of folly.

## THE APIARY.

### Good Yield of Honey.

The Selma Enterprise has interviewed many of the local bee men and finds that their honey crop this season is very satisfactory. The apiaries within a radius of 10 miles of Selma will produce 3500 120-pound cases, or fifteen carloads, of honey this season. The product is of excellent quality. In the absence of the usual September rains, the honey flow continued this year unchecked. We note crops by local bee men as follows: J. F. Crowder has taken twenty tons extracted and five tons of comb honey from 1000 hives. He says that he was unable to get help when he needed it most and did not save all his crop. He estimates that he lost \$600. O. W. Stearns owns and operates 600 hives in six apiaries, and his present year yield is thirty-two tons. He did his extracting without help. Mr. Stearns says that on one occasion he visited an apiary of eighty hives and extracted in two days, without assistance, sixty-seven cans, or a little over two tons. For a period of six days he averaged a ton a day. H. E. Roberts has extracted thirty-two tons of good quality honey from 590 hives. He says that some of his best honey was made during the latter part of the season and came from a late-blooming flower known as blue curl, or camphor weed. Watkins & Bales have taken a crop of twenty-six tons from 800 hives. They own several good apiaries. J. W. Paine secures fifteen tons from 200 swarms. His average is the largest and his honey is of fine quality.

## CUTTER'S BLACK LEG AND ANTHRAX VACCINES.

### CALIFORNIA'S FAVORITES.

#### The Lowest-Priced Reliable Vaccines.

Cutter's Anthrax Vaccine has been used this season in the worst infected territory in the State, and has not failed in a single instance to check the progress of disease.

Cutter's Black Leg is the most favorably known vaccine in use in California to-day.

Write for booklet.

THE CUTTER LABORATORY,  
Rialto Building, San Francisco.

## UNION SCALE CO. HAS LED FOR 25 YEARS.

The Original

### TRUSS LEVER and U. S. STANDARD,

with double beam, and DIAMOND STEEL Bearings. Wood or steel frame. We ship on approval and pay the freight for 30 days. We save you MONEY on all kinds of SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, and patent specialties. We are the oldest SCALE manufacturers west of CHICAGO. We made it possible for you to buy at FACTORY PRICES, same as our dealers, and examine goods at your station. KNOW what to buy, and what others pay, by writing.

### UNION SCALE CO.,

(Incorporated in 1881.) Room 3, DES MOINES, IA.

### CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO.,  
G 28 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

Telephone Main 199.

### BLAKE, MOFFITT & TOWNE, DEALERS IN PAPER,

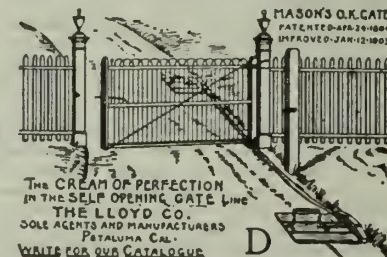
Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

## SHARPLES TUBULAR DAIRY Separator

Entirely different from any other separator; more simple, durable, convenient, safe and efficient. That is why the demand for

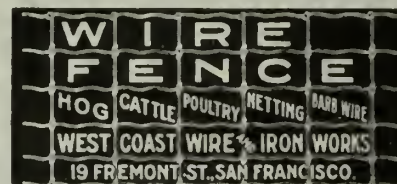
### THE TUBULAR

is so great and why Sharples Separator Works is the largest in the world. Examine the Tubular and you will buy no other. Write for free catalog No. 131  
THE SHARPLES CO., P. M. SHARPLES,  
Chicago, Ill. West Chester, Pa.



### EVERY YEAR WE TRY

to improve the quality, practicability and utility of Fence Fencing, and we believe we succeed.  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



## TRUSS and CABLE FENCING

### Is Easy to Handle.

Truss and Cable Fencing is put up in compact coils or reels weighing about 100 pounds each thus making a very convenient package to handle on the field. Two men with horse sense and no mechanical ability can put up a fence without special tools of any kind. Truss and Cable Fencing is suitable for cattle, sheep and hogs. Its life is twice as long as barbed wire or woven wire fences.

Write for descriptive circular.  
Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.

### SOMETHING NEW UNDER THE SUN.



### A Cheap, Effectual and Permanent Method of Propping Trees.

Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

### HOYT'S TREE SUPPORT CO. WATSONVILLE, CAL.

Or, R. M. TEAGUE, San Dimas, Cal.  
Distributor for Southern California.

## MACBETH, on a lamp- chimney, stays there.

My Index tells what chimney fits your lamp. If you use that chimney, you get perhaps twice as much light, and save a dollar or two a year of chimney-money,  
I send it free; am glad to.

MACBETH, Pittsburgh.



**BREEDERS' DIRECTORY****HORSES AND CATTLE.**

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

**SWINE.**

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**BERKSHIRE, POLAND-CHINA & DUDOC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

**POULTRY.**

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cocker Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

**SHEEP AND GOATS.**

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

**BREEDERS' SUPPLIES.**

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in Poultry Supplies of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**California's Finest Holsteins**

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records. Young Bulls for sale.

**PIERCE LAND AND STOCK CO.,** No. 14 Turk Street, San Francisco, Cal.

**FOR SALE. Dairy-Bred Shorthorn Bulls.**

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock

Phone RED 123. J. W. McCORD, Hanford, Cal.

**BUFF COCHINS. SILVER GRAY DORKINGS.**

Only highest quality. First prizes won at several shows. Eggs \$2.00, express prepaid. White fantail pigeons. HARRY MCINTIRE, San Diego, Cal.

**FLORIST AND GARDENER****More About Mountain Gardens.**

We recently gave an interesting article suggestive of gardening on a small scale in the Sierra Nevada mountains by C. H. Shing, chief ranger on the forest reserves. The following is supplementary thereto:

**DIFFICULTIES ENCOUNTERED.**—It is difficult for a dweller in a town, or near the market garden centers, to realize how helpless and hopeless the housekeeper is apt to become in the California mountains. One would think that water and good enough soil are abundant; that seed is cheap and labor easy to hire; that, in consequence, anyone is able to have a vegetable garden.

But none of these things are even measurably true. Hardly one settler out of fifty in the Fresno and Madera foothills grows vegetables enough to count as a definite factor in living. The whole problem is a hard and complex one, not often stated, but known by sad experience to many men and women.

Let me give some cases personally known to me. A bought about \$10 worth of garden seeds in packets from a reliable house. He was ready to plant in the spring, but one night the range hogs came in and ate up nearly all the packages of seeds. A retired from gardening. B had a garden "all up" and looking well. A neighbor's calves broke through the fence and destroyed everything in sight. B planted again, but the rains were over and nothing grew. C had a good, well-fenced garden, but during his absence some unknown person turned cattle in and made an end to the entire crop. D spent time, labor and money on a garden, but found that gophers, small birds, deer, quail and raccoons were too much for him.

In this region there are, perhaps, four gardens which have a surplus to sell at this season. There are about two hundred settlers here, between Morgan canyon, Fresno county, and Fresno Flats, Madera county. There are but four real gardens. The question one asks is: How can this sad state of affairs be remedied?

**HELPFUL HINTS.**—The first thing to do in most cases is to reduce the size of the garden. Give it abundance of water, cultivation and fertilization; destroy all weeds and enrich the soil; then water as much as is needful, but avoid the use of too much water. The second thing is to fence this little patch of, perhaps, 50 feet square so well that no wild animals can enter. Then trap or poison the gophers and drive off or shoot enough of the birds to cause a sensation in the feathered community.

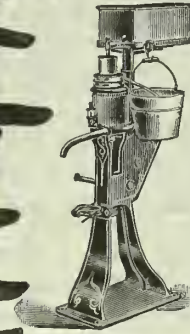
It is now the season to plant hardy vegetable seeds. They will then come up with the first rains. Sow the small French carrots, the early Milan turnips, also beets, onions, Alaska peas, and, if the climate is not too cold, the better wrinkled roots. Sow lettuce and radishes, spinach and mustard for greens, and really make your garden beginnings in late October and early November, instead of in March and April.

If every farmer in the foothills would make an honest trial of a small garden he would soon prove its value to the health of his family as well as to his own pocketbook. When one of the men who has a successful garden in this region goes to the postoffice he is literally beset by persons wanting to engage vegetables, and at enormous prices. The other day I saw a Crane valley man sell at his own door small yellow squashes at 2 cents a pound, and rutabaga turnips at 1½ cents. I saw another grower selling Hubbard squashes at 25 cents each, dry beans at ½ cent, cabbage at 10 cents a head, sweet potatoes and tomatoes at 4 cents, and everything in like proportion. Evidently there is room for small market gardeners in the foothills of the Sierras.

ADVERTISER owns fully equipped poultry plant, who understands the business with \$200 to invest. S. C. White Leghorns' eggs \$1.00 per setting, \$6.00 per 100. Stock for sale. Address G. S. BOLCE, Natividad, Monterey county, Cal.

**THOUSANDS OF PROSPEROUS DAIRYMEN****POINT TO THE****U. S. CREAM SEPARATOR****AS THE CAUSE OF THEIR SUCCESS**

If you wish to read their letters, write for catalogue



For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

**VERMONT FARM MACHINE CO.**

Bellows Falls, Vt.

**Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST**

**MANUFACTURED BY****N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.**MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.****TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.**

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Crumming Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted.

**THE PETALUMA INCUBATOR CO., Pacific Coast Agents, PETALUMA, CAL.****IN REPOSE****ATTENTION****"CLIFF," REGISTERED A. K. C. NO. 70,011**

If you need a dog to herd your cattle, GET THE BEST! The best is a

**Thoroughbred Scotch Collie**

We have Puppies and full-grown stock constantly on hand. For particulars giving pedigree, etc. Address, Toyakano Kennels, Colfax, Placer Co., Cal.

**BULLS FOR SALE.****Registered and High-Grade SHORTHORNS.**

All inoculated for Texas Fever, at CHOWCHILLA STOCK FARM.

Address.... **ISAAC BIRD, Merced, Cal.****AUTOMOBILES****AT YOUR OWN PRICE.**

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!

**MOTOR VEHICLE CO.**

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

**Cocoanut Oil Cake.****THE BEST FEED FOR STOCK, CHICKENS AND PIGS.**

For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.** 208 California St., San Francisco, Cal.

**PATENTS**

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

**DEWEY, STRONG & CO.**

(ESTABLISHED 1860.)

**PATENT AGENTS.**

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.

113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year! A. VAN DER NAILLEN, Pres't. 1 Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



## Horse Insurance.



You can insure your horse against Curb, Splint, Spavin, Sprained Cord and all forms of Lameness, by using

### Tuttle's Elixir.

The safe plan is always to have a supply on hand. Used and Endorsed by Adams Express Company.

### Tuttle's American Condition Powders

—a specific for impure blood and all diseases arising therefrom. TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE. Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass. 437 O'Farrell St., San Francisco, Cal. Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.

## Patrons of Husbandry.

### Tulare Grange.

TO THE EDITOR:—Tulare Grange No. 198, Patrons of Husbandry, California, at the usual hour met at its hall on the 7th. There was a good attendance and an excellent lunch.

After reading and approval of the minutes of the last previous meeting, two candidates for the degrees were balloted for and elected.

Bro. Fowler reported that the supervisors are, from the first of this month, paying a bounty of 2 cents each on squirrels destroyed in this county. As Wednesday next, the 11th, has been selected by this Grange for a systematic destruction of squirrels, it is hoped a united effort will be made.

In the matter of a Farmers' Institute in Tulare on the 2nd and 3rd of December, a committee on promotion and advertising was appointed, consisting of Sisters Morris and Weaver and Bros. Cartmill, Fowler and the Worthy Master. A committee on musical programme and music was appointed, consisting of Sisters Bering, Fields and Styles.

The subject of the day was next taken up, "What influence has the Grange in the formation of character?" On this subject the comments of the Lecturer of the National Grange were read. In it he states that the association of women in the Order, and the refining influence it has, the restraint on the language and conduct it has, gives a marked character to the member of the Grange, and is evidence of Grange influence of character. After reading the comments of the National Lecturer the members present, brothers and sisters, very freely expressed themselves on the subject. It was admitted that the meetings of the Grange promote social intercourse; promote fair-minded discussion and consideration of all subjects brought before it; promote courteous consideration of the views of every member expressing him or herself, and this courtesy, exercised in the Grange, will be exercised outside of it; promote companionship and esteem among the members, and in these features no social or moral order to a greater extent tends to influence and to mark the character of its membership than does the Grange.

The Grange Quarterly Bulletin, from which the comments of the National Lecturer were read, reports that from October 1, 1902, to September 30, 1903, 326 new Granges were organized in the United States. Of this number California had 5, Vermont 6, New Jersey 8, Oregon 18, Ohio 22, Maine 24, Pennsylvania 25, New York 54, and Michigan 135.

The following question was drawn from the question box: "What is the best method of irrigating trees and vines—flooding, in ditches, or in furrows?" It was fully discussed, but admitted the quality and the nature of the soil should govern the method. The subject for next meeting will be: "An inventor is of more benefit to mankind than a reformer." J. T.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific Coast inventors:

FOR THE WEEK ENDING OCTOBER 27, 1903.

742,576.—FISHING REEL—A. J. Arnold, National City, Cal.  
742,385.—MIXER—H. W. Blaisdell, Los Angeles, Cal.  
742,389.—PIPE WRENCH—F. D. Bullard, Los Angeles, Cal.  
742,397.—PUZZLE—W. S. Day, Spokane, Wash.  
742,786.—LUBRICATOR—E. K. Green, Los Angeles, Cal.  
742,421.—BAKE OVEN—M. Hennings, S. F.  
742,648.—OIL BURNER—A. W. Hess, San Jose, Cal.  
742,787.—SASH FASTENER—F. G. High, Los Angeles, Cal.  
742,332.—RATCHET CLUTCH—J. H. G. & P. R. Kuny, Los Angeles, Cal.  
742,451.—WATER SUPPLY FOR WELL DRILLS—W. H. Ladley, Maricopa, Cal.  
742,462.—TRACTION WHEEL—J. W. Livermore, Berkeley, Cal.  
742,699.—ROOST—C. H. Mattox, Baker City, Or.  
742,717.—CONVEYOR—W. L. McCabe, Seattle, Wash.  
742,478.—HAND BAG—W. W. McCormick, S. F.  
742,397.—GARMENT HANGER—A. Mieden, Sumpter, Or.  
742,471.—PUMP—Morrice & Grim, Sonora, Cal.  
742,724.—SHADE FIXTURE—J. Nicholas, Berkeley, Cal.  
742,480.—GENERATOR—E. I. Nichols, S. F.  
742,800.—HARNESS—J. N. Patten, Colgrove, Cal.  
742,726.—BATTERY—J. A. Pedrazzi, Carmel, Cal.  
742,235.—TRAMWAY—B. C. Riblet, Spokane, Wash.  
742,236.—TRAMWAY GRIP—B. C. Riblet, Spokane, Wash.  
742,509.—HORSESHOE—C. W. Smith, Renton, Wash.  
742,510.—CONCENTRATOR—C. H. Snow, Stockton, Cal.  
742,752.—HARROW—N. W. Thompson, Erskineville, Or.  
742,529.—WATER MOTOR—Trenchard & Heath, Gannett, Cal.  
742,546.—TIME LIMIT TICKET—R. W. Wood, Seattle, Wash.

### Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

BUTTER MOLD.—No. 740,746. Oct. 6, 1903. W. S. Farnsworth, Healdsburg, Cal. This invention relates to an apparatus for molding butter in suitable rectangular masses, and, after cooling, to separate the mass into "cubes" or "rectangular rolls," so called, of required size and weight. It consists of a base, a box mounted upon said base composed of separable sides, with means for locking said sides to the base and to each other to form a mold within which the mass of butter is shaped, a means for separating and removing the mold sides after the butter is cooled without mutilating the mass, and cutter guides with means for attaching them to the base, so that the butter may be separated into the desired forms.

VEHICLE WHEEL RIM.—No. 741,401. Oct. 13, 1903. H. Harris, San Francisco, Cal. One-half assigned to Wm. J. Gorham, of same place. This invention relates to improvements in vehicle wheels employing inflatable tires, and pertains particularly to a form of sectional rim having means for quickly attaching and detaching the tire. Its object is to provide a rim and a double-tube tire therefor of simple construction and suitable for bicycles, automobiles and other vehicles, whereby in case of puncture or other needed repair the tire may be quickly and easily detached, the inner tube removed and mended, and the tire again replaced and locked in position securely on the rim.

SIDEHILL HARVESTING MACHINE.—No. 741,876. Daniel Best, San Leandro, Cal. This invention relates to that class of machinery designed for cutting, threshing and cleaning grain, in which the machine is mounted upon wheels and adapted to travel over the field in which the grain stands, being propelled by either animal or mechanical power. It consists in a means for changing the position of the bearing wheels relative to each other in such manner that the threshing and cleaning mechanism of the apparatus may be maintained substantially level in the direction transverse to the line of travel and when the machine is traveling upon sidehills or inclined ground, which would otherwise throw the said mechanism out of level.

PUMPS.—No. 742,471. Oct. 27, 1903. G. Morrice and C. G. Grim, Sonora, Cal. This invention relates to improvements in pumps of the double-acting type, in which a reciprocating plunger is adapted to draw water alternately into valve-controlled passages connecting with the pump barrel above and below the plunger and to discharge the water in a continuous stream. Its object is to provide a pump of this character suitable particularly for deep-mining operations, which shall be simple in construction and which is readily convertible into a single-acting pump, thereby allowing repairs or renewals to be made without suspending the operation of the pump.

MOWING MACHINE.—No. 741,874. Oct. 20, 1903. J. W. Barnes, San Francisco, Cal. This invention relates to improvements in mowing machines employing an endless cutter in contradistinction to those in which a reciprocating cutter bar is used. Its object is to provide, among other things, a simple, efficient, durable and positively operated device in which the speed of the cutter may be regulated according to the character of the grain and the rate of travel of the team.

STEP LADDERS.—No. 741,872. Oct. 20, 1903. J. A. Ashley, Yuba City, Cal. This invention consists in a bolt for securing the parts of step-ladders together consisting of a threaded cylindrical portion adapted to pass through the side of the ladder, a vertical portion to pass through the step, said portion being made segmental in cross section and wider than the cylindrical portion and a transverse head having depressed ends.

APPARATUS FOR ASSORTING AND DISTRIBUTING FRUIT.—No. 741,928. Oct. 20, 1903. C. Rayburn, Lindsay, Cal. The object of this invention is to provide suitable means for the rapid handling of assorted fruit by affording accommodation for a greater number of papers than it has heretofore been generally possible to employ, at the same time economizing floor space.

# CUTTER'S BLACK LEG —AND— ANTHRAX VACCINES.

## CALIFORNIA'S FAVORITES.

### The Lowest-Priced Reliable Vaccines.

Several thousand doses of Cutter's Anthrax Vaccine HAVE BEEN USED THIS SEASON in herds in which disease had already broken out, and in every instance the progress of the disease was stopped. Cutter's Black Leg is the most favorably known vaccine in use in California to-day. It is now made in Pill as well as in Powder and String form. Pill Vaccine is recommended as being safer and more easily used than either the Powder or String Vaccine. Write for description of it and Special Black Leg Pill Injector.

Booklets on Black Leg and Anthrax FREE!

THE CUTTER LABORATORY,  
ROOM 322B, RIALTO BUILDING. SAN FRANCISCO, CAL.

### SAMPLE TESTIMONIALS.

Office of Cone Ranch Company,  
Red Bluff, Cal., Oct. 6, 1903.

The Cutter Analytic Laboratory, San Francisco, Cal.

Gentlemen:—Referring to your favor of recent date, would say that we have found in our experience of nearly three years in the use of your Black Leg Vaccine, that the results have been very satisfactory. We have vaccinated from 500 to 750 head each season, and each time after some deaths had occurred from Black Leg, and in every instance the disease stopped immediately after vaccination.

Having given your vaccines such a trial, it gives us pleasure to recommend them to fellow stockmen. Respectfully,  
CONE RANCH CO.,  
T. H. Ramsay, Mgr.

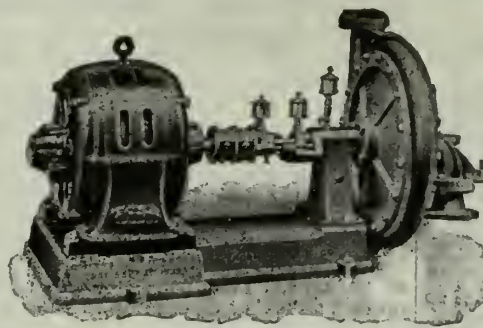
Courtland, Nov. 3, 1903.

The Cutter Analytic Laboratory, San Francisco, Cal.

Dear Sirs:—I have used your Black Leg Vaccine for the last three years, with very gratifying results. Have never lost any cattle from Black Leg, but have used your vaccine as a preventive.

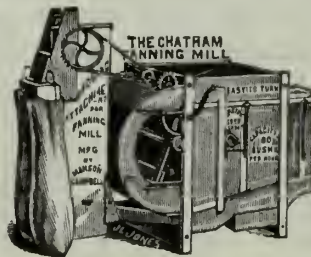
I generally vaccinate about thirty head of young cattle annually. Mr. Ed. Johnson, a neighbor of mine, lost seventeen head out of twenty-five. After losing this number he sent and got your vaccine and has had splendid results since that time.

I cannot say too much in behalf of your Black Leg Vaccine. Please send me enough of your powdered Black Leg Vaccine (single) for twenty head. Yours very truly,  
J. M. HUCKLEY.



## TRIED AND TRUE KROGH PUMPS.

First and last and always best for all kinds of work.  
Address:  
KROGH MANUFACTURING CO.  
619 Market Street, San Francisco.



The above cut represents the "Famous" Chatham Fanning Mill with Sacker Attached, which won the First Prize at the State Fair, Sacramento, Cal., this fall.

## Clean Your Grain for Seed.

Foul seeds and cracked grain require just as much time to put into the ground and just as much room in the ground.

This machine will clean any kind of grain, taking out all foul seeds, separating oats from wheat, cleaning and grading barley, cleaning alfalfa. We have special screens for cleaning all sizes of beans. Over one thousand of these Fanning Mills now in use in California.

Send for one of our beautiful circulars, telling you how to make "Dollars Out of Wind."

We pay all freight.  
GEO. W. FOOTT,  
General Agent, VENTURA, CAL.

## Checkmate Frost! Save Fruits!

### USE

### Griffiths-Munson Briquettes.

Burn on ground three to four hours. No kindling required. Twenty-five fires per acre. Two to three briquettes to fire, according to exposure. If temperature moderates, can be extinguished and used again until consumed. Water does not affect them. Strong heat in three minutes.

For further particulars, apply to

GRIFFITHS-MUNSON BRIQUETTE CO.  
128 HELLMAN BLOCK, LOS ANGELES, CAL.

## "Stowe's RED LABEL" Squirrel Poison

WILL KILL YOUR SQUIRRELS.

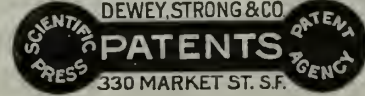
Satisfaction Guaranteed.

Prepared by C. A. STOWE, STOCKTON, CAL.

## DON'T BUY GASOLINE ENGINES

one-cylinder engines. Cost less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. We make 2-4-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue, THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.

until you have "The Master Workman," investigated a two-cylinder gasoline engine, superior to all one-cylinder engines. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. We make 2-4-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue, THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.





## Seeds, Plants, Etc.

**RIVERSIDE NURSERY**, 320 River Street, Santa Cruz, Cal.  
**1500 CHERRY TREES, \$15 PER 100.**  
 Lewellyn, Olympia, Napoleon, Royal Ann, Black Tartarian, Blackheart.  
**5000 APPLE TREES, \$10 PER 100.**  
 4 to 6 ft.; Extra Well Rooted; Clean.  
 Yellow Bellflower, Y. N. Pippin.  
 Refer to City Bank, Santa Cruz.  
**HENRY SHAW.**

## TRUE'S NURSERY

WILL BE REMOVED FROM  
**Forestville to Sebastopol.**  
 Correspondence Solicited.  
 Price List will be ready soon.  
**T. J. TRUE, Sebastopol, Cal.**

## Bargain in Citrus Trees.

We have for sale several thousand fine orange trees—leading sorts—for sale at special rates if taken before Dec. 1st. Headquarters for trees on trifoliata or frost resistant root.  
**WAGNER'S NURSERY,**  
 Tel. Res. Sub. 108. PASADENA, CAL.

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries  
**SPECIALTIES.**  
 These Dewberries have produced over 5 tons of fruit on 1/2 acre. For descriptive list, address  
**W. J. EMBREE,**  
 Rural Box 61. El Monte, Los Angeles Co., Cal.

## GINSENG.

Cultivate Ginseng and get rich; sells for \$8.00 per lb.—14 acre yields in five years 2083 lbs. dried root, selling for \$16,664.00. Plant seed now. Package seeds and instructions on cultivation, \$1.00.  
**JOHN FAGAN, St. Joseph, Mich.**

**ROCKY FORD CANTALOUPE SEEDS.**  
 Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. **FARMERS' AND MERCHANTS' BANK, Rocky Ford, Colo.**



**CITRUS TREES**

That will grow, bear profitable crops, and are true to name, are the only kind that we propagate. Thirteen years in the citrus nursery business—hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture free; send for a copy.

**SAN DIMAS CITRUS NURSERIES**  
 SAN DIMAS, CAL.  
 R. M. TEAGUE

**COX SEED CO.**

411-413-415 Sansome Street, San Francisco, Cal.

**BULBS**

Now is the time to plant  
 HYACINTHS, TULIPS, NARCISSUS,  
 SPANISH IRIS, ANEMONE, ETC.

Send for our Bulb Catalogue.

# Fresno Nurseries.

ESTABLISHED 1889.

**SPECIALTIES—DECIDUOUS FRUIT TREES AND ROOTED VINES.**

APRICOTS, on Apricot, Peach and Myroblan roots.  
 PEACHES, on Peach and Almond.  
 PRUNES, on Almond, Myroblan, Peach and Apricot.  
 ALMONDS, on Peach and Almond.  
 NECTARINES, APPLES, CHERRIES, PLUMS, PEARS, ETC.

**ROOTED VINES OF ALL VARIETIES.**

All stock is of my own raising and TRUE TO NAME.  
 Send me a list of your wants.

Address

**FRESNO NURSERIES, F. H. WILSON,**  
 Proprietor.  
 P. O. BOX 42, FRESNO, CAL.

# TREES. APPLE, PLUM, CHERRY, PRUNE, PEACH, APRICOT.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
 STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

# BULBS FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

**TRUMBULL & BEEBE,**  
 Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.

**Deciduous, Citrus and Ornamental Trees and Rose Bushes.**

Finest and most complete Nursery Catalog published mailed for five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, \$200,000

**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P. O. BOX 18 FRESNO, CAL.

# California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

CONTENTS.

Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

# CALIFORNIA VEGETABLES

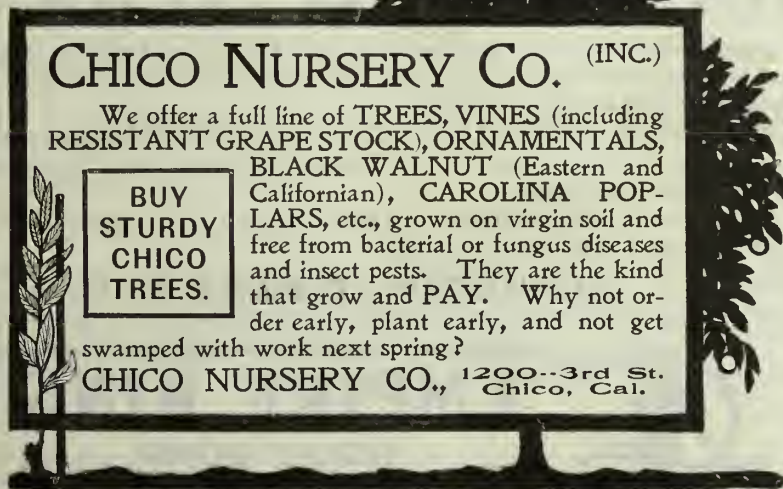
—IN—  
**GARDEN AND FIELD.**

By PROF. E. J. WICKSON, Author of "California Fruits."

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

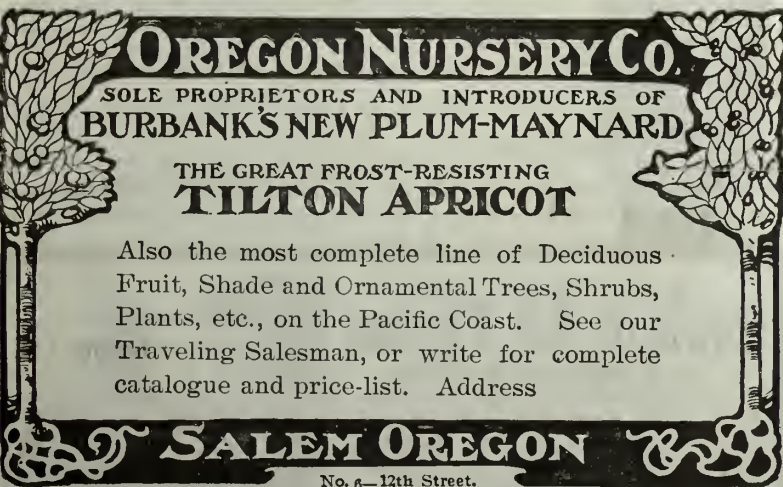


**CHICO NURSERY CO. (INC.)**

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS, BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get swamped with work next spring?

**BUY STURDY CHICO TREES.**

**CHICO NURSERY CO., 1200--3rd St. Chico, Cal.**



**OREGON NURSERY CO.**

SOLE PROPRIETORS AND INTRODUCERS OF  
**BURBANK'S NEW PLUM-MAYNARD**

**THE GREAT FROST-RESISTING TILTON APRICOT**

Also the most complete line of Deciduous Fruit, Shade and Ornamental Trees, Shrubs, Plants, etc., on the Pacific Coast. See our Traveling Salesman, or write for complete catalogue and price-list. Address

**SALEM OREGON**  
 No. 6--12th Street.

**NATIONAL WOOD PIPE CO.**  
**WOOD PIPE.** Woodward Patent Machine Banded. Wheeler Patent Continuous Stave.  
 Los Angeles Office: 6th and Mateo Sts.  
 San Francisco Office: 301 Market St.  
 A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST.



(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

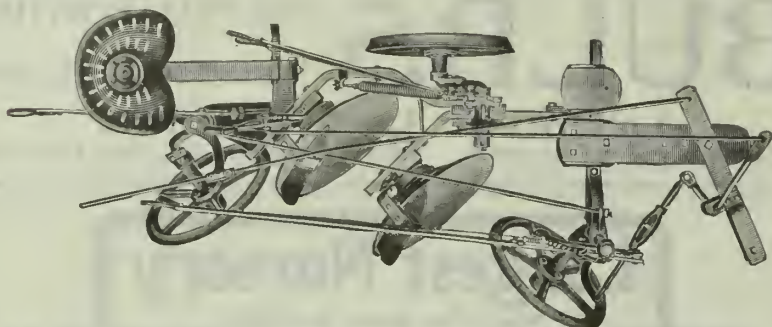
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

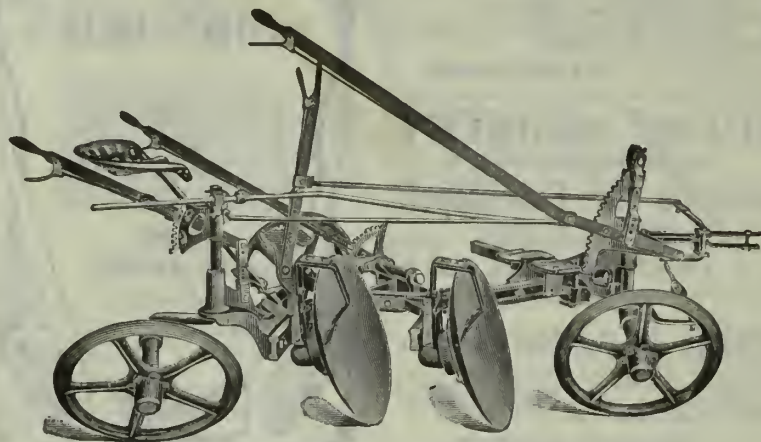
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and the special low levers will allow of closer working to the trees than can be accomplished with any other plow. The above cut shows plow ready to turn squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc Plows.

Notice the perfect land gauge and leveling lever on rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the farmer for seeding his farm by most modern methods.

## HOOKER & CO.

16-18 DRUM ST., SAN FRANCISCO.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

TAKES THE PLACE OF SHINGLES, TIN, IRON, TAR AND GRAVEL, and all prepared roofings.

For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed.

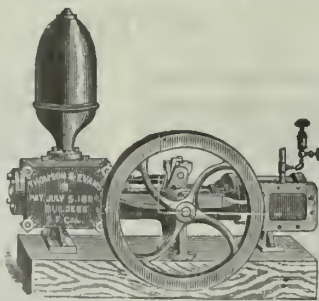
It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,  
713 Market Street, San Francisco.

## C. H. EVANS & CO. MACHINE WORKS.

Thompson & Evans  
Steam Pumps.

DEEP WELL AND  
POWER PUMPS.



Marine Engines

SHIP and STEAMBOAT  
WORK.  
Pipe Cutting, Etc.

183-185-187 Fremont St.  
San Francisco.

FRANCIS SMITH & CO.,  
Manufacturers of



FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., All Sizes.  
83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making pipe.

Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

## PATENTS.

We attend to all business connected with U. S. and Foreign Patents, Caveats, Designs, Trade-Marks, Copyrights and Labels; prepare Assignments, Licenses and Agreements, and furnish opinions as to Patentability, Infringement, etc. DEWEY, STRONG & CO. (Established 1860), 330 Market St., S. F., Cal., and 918 F St., Washington, D. C.

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

ALLISON, NEFF & CO.



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by FIELD FORCE PUMP CO., Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

## HAVE YOU SEEN THE Jack of All Trades

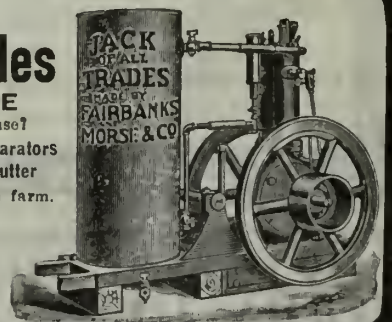
—A GASOLINE ENGINE

of the most modern type for farm use?  
Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money

Write for free descriptive catalogue "Fa."

Fairbanks, Morse & Company,  
San Francisco, Los Angeles,  
Portland, Or.



## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 21.

SAN FRANCISCO, SATURDAY, NOVEMBER 21, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## A Fine Young Jersey.

We have a good portrait on this page of a fine young Jersey bull owned by Mr. George Y. Coutts of Orange, a thriving town of southern California, where the gold of the Jersey butter contends with the gold of the orange for local supremacy. The Orange region is a splendid one for all kinds of intensive farming, but it must be intensive, for the land is rich and valuable and must be used for high class products to properly compensate for the owner's investment and effort. Mr. Coutts believes that high class stock of the highest producing capacity are a good thing for the district, and he has manifested much enterprise and liberality in making demonstration of his belief. He is known among the breeders of the East as a good buyer of good things, and we were not surprised to read in the Jersey Bulletin some time ago that he had bought a young Jersey bull, "richly bred in Golden Lad lines, his sire being a son of Golden Lad and his dam (Boxom Lassie) a double grand-daughter of Golden Lad 2nd; and she gets another line of Golden Lad and Sultane through her paternal grandam, Oxford Lily. In this bull California gets another sire that should contribute a large share to the work of improving the dairy herds of the coast, and Mr. Coutts has one of the best in Island lines in that section."

Pacific Golden Lad 60,265 is the distinctive title of the youngster whose picture appears on this page. He was of Island breeding, though his birth was on this side of the water, on May 10, 1901. He is of solid dark color—an exceedingly handsome animal. He comes from a race of high record sires and dams and will, no doubt, add to the list of great Jersey deeds in California.

## Development of Water in a Stream Bed.

The adjacent picture is suggestive of water development in the arid regions. The scene is in Arizona and the undertaking is to develop a supply in convenient place for pumping in the dry bed of the Santa Maria river. There are many ways to secure subterranean waters. In the present case it was done



Pacific Golden Lad, Owned by Mr. George Y. Coutts of Orange, Cal.

by sinking a shaft on the bank of the river 56 feet deep, from which a drift is run horizontally directly across under the river bed for a distance of 270 feet, and below the bed from 10 to 15 feet. The drift cuts through sand, cement, gravel and conglomerate waste, and is of sufficient size to form a large reservoir. It may be well to state that the rivers of southern Arizona are dry at certain seasons of the year, due to the immense evaporation; however, in this particular case the sand beds are thoroughly saturated with water, and it was due to the latter fact that it was possible to develop a sufficient water supply.

Thirty-seven feet below the top of the shaft is a station 7 feet 6 inches wide by 7 feet 6 inches high by 12 feet long. In this station is situated a 6x10-inch triplex hydraulic pump with a 20 H. P. electric motor to operate it, which runs at a speed of 600 revolutions per minute, and is geared to the pump so as to drive it at a speed of forty revolutions per min-

ute. The pump and motor are on one bedplate, which rests on a concrete foundation.

This arrangement catches and stores the underflow of the stream and brings it out as required. Thus safe from loss by evaporation, a perennial supply can be secured, and the reservoir, pumping works, etc., are all safe from the on-rush of flood waters to which these dry stream beds are occasionally liable when the cloudburst season is on.

## Cows That Are Thieves.

"If the 'man behind the cow' in Kansas would do his part no unprofitable animal would masquerade under the fictitious appellation of 'milch cow,' and she would either go to the butcher's block or be made to return a profit by more intelligent care and management," says Secretary Coburn in the last Quarterly Report of the Kansas Board of Agriculture, which is especially devoted to dairy discussions. "It passeth understanding why theft by a cow should be tolerated more than theft by a human. In effect, the result to the loser in either case is the same. Our Government has found it wisdom to study and establish far-reaching methods for the detection and the repression of the latter; and by the same token, why should our farmers and dairymen be less vigilant in regard to this possible proclivity in their cows—beasts described as dumb, yet outwitting their owners? So long as cows of this class are permitted in the dairy herd, so long will there be dissatisfaction and failure. Improvement is the route to success, whether by breeding, better management, or other way, and intelligence in our cowmen is the power that will force advancement in the right direction."

Mr. Coburn shows that dairying has come to be one of the most important factors in Kansas agriculture, and, rightly conducted, is one of the surest money makers of the varied industries pursued in that State. It is incomparably more rational than any one-crop system, or even general farming, as its practice tends to rotation in crops, maintains or increases the fertility of land, and affords steady employment with returns remunerative, according to the brains mixed with the business. What Mr. Coburn claims for Kansas is true of large areas of California, where the land is not being used as well as it might be.



Developing a Water Supply in the Santa Maria River, Arizona.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

**TWO DOLLARS PER YEAR IN ADVANCE.**  
Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers  
E. J. WICKSON Horticultural Editor

SAN FRANCISCO, NOVEMBER 21, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Pacific Golden Lad, Owned by Mr. George Y. Counts of Orange, Cal.; Developing a Water Supply in the Santa Maria River, Arizona, 321.  
EDITORIAL.—A Fine Young Jersey; Development of Water in a Stream Bed; Cows That Are Thieves, 321. The Week, 322.  
QUERIES AND REPLIES.—Alfalfa Sowing; Camellia Growing; Olive Pickling, 322. Spaying and Fumigating; Sisal Hemp in California; Brine in Apple Drying; Winter Growing Forage Plants; Wild Rice for Duck Bait; Pollination of Carobs; To Rid a House of Wood Rats; Black-eye Peas for Green Manuring, 323.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Nov. 16, 1903; Temperature and Rainfall, 323.  
METEOROLOGICAL.—Weather Probabilities From Distant Forecast Investigations, 324.  
THE FIELD.—Trouble Between Bee Men and Alfalfa Growers in Nevada, 324.  
FRUIT PRESERVATION.—A Slander on Growers of Fruits and Vegetables, 325.  
THE APIARY.—The Introduction of Honey Bees to California, 325.  
AGRICULTURAL REVIEW.—326.  
THE HOME CIRCLE.—Unsung; A Thanksgiving Reunion; Art of Sandwich Making, 328. Satisfying His Curiosity; Humorous; Morning and Evening; Hints to Housekeepers; Domestic Hints, 329.  
THE MARKETS.—Produce Market; Fruit Markets, 330.  
TRACK AND FARM.—Lou Dillon and Her Great Achievement, 332.  
THE VETERINARIAN.—Answers to Queries—Gloss Anthrax, 333.  
MISCELLANEOUS.—Farm Earnings in California; Liquid Smoke for Curing Hams, 333.  
FRUIT MARKETING.—California Fruit in London, 334.

## The Week.

Storms are on again and more to come apparently—in fact, the first good mix-up of the elements at the north this season seems to be in progress as we go to press. It will be quite a luxury to get wet through and then read Mr. Blochman's weather discussion on another page of this issue. The year which is thus opening so promisingly bids fair to be notable in the progress of the State. The promise of the canal at Panama in the quickest possible time, which recent events favor, and the strong organized effort which is now being put forth toward making California better known and better populated, are joint factors in the upbuilding of the State. To enable these influences to do their utmost, it is necessary that there should be a year of good crops and of busy, prosperous people as a foundation upon which far-reaching influences can rest. Everything now certainly looks as though this desideratum would be amply realized.

Spot wheat is quiet and unchanged; futures declined since our last, but the Chicago situation has now improved and probably reaction here is merely delayed by the soft weather. There have been no clearances of wheat. A spot charter for wheat and barley has been made at 12s 6d—a phenomenally low rate—and ship owners are apparently losing money. Nearly 1000 tons of barley went out in a mixed cargo. Barley on spot is unchanged and futures are somewhat low. Minor cereals are unchanged. Beans are steadier, but there is little doing; pinks are slightly firmer. Bran, middlings and hay are the same as before. Beef and mutton are unchanged and firm, while hogs are weak, except very desirable medium weights. There is little packing now, as the Eastern situation is a little soft and our packers are wary. Butter is unchanged, but has a downward look; cheese is unchanged and weak, except for mild new of fancy grade. Eggs are higher and fancy fresh are scarce and being pushed up to the limit to help out the stored product. Poultry is firm and in good demand; it looks as though this Thanksgiving would see high prices. Potatoes are quiet and barely steady, while onions are higher, being in fair demand with lighter stocks. Fresh fruits are in better tone and fine apples and pears are in good demand. Grape receipts are rather scant and orders beyond filling are reported. Old crop Valencia oranges are firm and seem to hold the preference over new Navels, which, however, are now improving in color and contents. Lemons are quiet, but choice fruit is steadily held and enjoys the advantage of an

advance in limes. Dried fruit is quiet, and some pressure to sell. Nuts are firm, both almonds and walnuts being sought for. Gilt edge honey is firm, but ordinary lots are slow. Hops are unchanged and stiffly held to buyers. Wool is very quiet here and the Eastern markets seem steady with small transactions only.

It is rather a strange fact that some of our journals which make claim to knowledge of fruits should copy without comment an account of an orange-like tree bearing a large light yellow pear-shaped fruit, and then indulge in the speculation that such fruit resulted from a cross between the blossoms of the orange and those of a pear tree which happened to be growing near. It is not surprising, of course, that such speculation should arise in the thoughts of those who do not pretend to know anything about fruits, but for those who do make such professions to show that they do not know a shaddock when they hear about it is what amuses us.

It would be highly gratifying to the people if the general Government would hurry up its purchase of the big trees, which should be preserved for the delight and inspiration of coming generations. The Government never should have sold those trees and there is reason to believe that in some cases they were sold against the intention of the Government. They should be bought back without delay. The Government has plenty of money, and the people want those trees saved. Captain Young, who has charge of the reservations of big trees, urges the acquisition by the Government of the land in those parks, now owned by private individuals. In Sequoia Park are many large tracts thus owned, and after waiting in vain for the Government to purchase their property, the owners are beginning to sell off the large timber. These big trees grow close to the county roads, the owners have cut them by the wholesale and put the lumber upon the market, and where once was a forest of magnificent giants there is now only devastation and ruin in the shape of stumps and sawdust piles on either side of the highroad. It is but just to the owners, and for the best interest of the Government, that the purchase of these patented lands within the park be authorized by Congress if the parks are to be continued. We hope Captain Young's exhortation will be heeded by the Government forthwith.

A very promising and commendable effort is being made to secure the National Butter Makers' Association convention for California in 1905. In order to secure this convention there should be a good exhibit at St. Louis and a strong representation of California dairymen during the convention of the Butter Makers, which meets on the Exposition grounds in October, 1904, and which will then determine where the convention will be held in the succeeding year. California wants this convention. The importance of her dairy interests—dairy products in this State amounting to more than \$18,000,000 annually—demand a wide recognition. The Butter Makers' convention, if held in California, will be valuable to our dairymen in placing them in closer touch with the East, and the butter makers of the East will learn of the great and increasing importance of dairying in California. The California Promotion Committee desires the co-operation of all dairymen in the State. It is hoped that a strong representation of California dairymen may attend in St. Louis to meet the delegates to the National Butter Makers' Association and impress upon them the desirability of coming to California for 1905. Wm. H. Saylor, secretary of the California Creamery Operators' Association at the office of the State Dairy Bureau, 114 California street, San Francisco, is ready to give detailed information of the proposition to all who may desire it.

The German merchants are fighting hard against the Government restrictions upon the trade in American dried fruits, which are largely from California. Consul Hanauer, of Frankfurt, writes that protests against the action of police authorities in seizing or forbidding the sale of American dried fruits because they contain an admixture of sulphuric acid are made in the annual reports of many chambers of commerce throughout Germany. The chambers claim that not a single case has occurred where in-

jury resulted from said admixture. On the contrary, it is said it helps to preserve the fruits, which are a popular article of food. The Chamber of Commerce of Mannheim, in conjunction with many other chambers of commerce, addressed the Imperial Sanitary Bureau at Berlin on the subject of "American dried fruits" and the police orders inhibiting their sale. The chamber refutes the allegation that the use of sulphuric acid as a preserving means is injurious, and petitions the sanitary bureau to fix the amount of acid allowable in the preservation of these fruits, which are a necessary article of consumption.

## QUERIES AND REPLIES.

### Alfalfa Sowing.

TO THE EDITOR:—In your paper for November 7 a contributor advises sowing alfalfa "with grain seed mixed to protect the young plants the first year." Is that the correct way? Some alfalfa growers tell me that alfalfa, seeded alone, will do best, as the corn crop would take too much water from the soil, thereby weakening the alfalfa and even smothering it, acting the same way as weeds. Others claim that a corn crop is necessary in order to protect the alfalfa plants against frost if sown late in the fall. In regard to moisture conditions I find also two diametrically opposite views ruling among alfalfa growers. Some say, the same as you did in the PACIFIC RURAL PRESS some time ago, that it is best to sow after the ground has received sufficient moisture from rain or irrigation, while others claim that it is just as good to sow alfalfa on dry ground before winter rains set in, as these might start so late that there is danger of frost if you postpone the seeding till after they have started. Please give your opinion.—ERNEST SKARSTEDT, Laton.

Grain or any other cover crop sown with alfalfa when moisture is short is likely to furnish the alfalfa. This injury is, of course, more apt to occur with spring sowing with the dry season coming on. A thin sowing of grain with fall sowing of alfalfa is a more rational proposition, but we still think in most cases alfalfa should be sown earlier in the fall and allowed to have all the land to itself. The dry sowing, so as to be ready for the rain, may also be a fortunate thing when the rains are late, but the risk then is that the rain will be just enough to start the seed and not enough to keep it growing. We should prefer to have the ground quite deeply wet before sowing and still get in the seed as early in the fall as possible.

### Camellia Growing.

TO THE EDITOR:—Will you kindly give me information concerning the culture of the camellia in California? Particularly, will it flourish out of doors in Lake county, where the temperature runs as low as 24°, though very seldom? Do rains injure the blooms? Does it require any special treatment as to soil, cultivation, pruning, etc?—R., Lakeport.

The Camellia japonica is quite hardy in California and is not injured by the temperature you mention. It is very easily grown and requires no special treatment, except that it must be watered moderately during the dry season, and it should be placed so that it will not have the full force of the afternoon sun. Treat it just as you would any other hardy shrub in your garden. The older blooms are discolored by the rain and the opening buds are sometimes injured by long rains and temperature a little too low to force their opening; but the plant is usually such a prolific bloomer that you are likely to get all the perfect ones you have any use for.

### Olive Pickling.

TO THE EDITOR:—I think of pickling 50 to 100 gallons of olives for family use, but do not know what wood to use to make boxes or tanks in which to treat them. The taste and color of redwood can be removed by keeping boxes filled with water for, say, thirty days, and changing it frequently; but I do not care to go to so much trouble unless necessary. Would pine be any better for the purpose? Would clean, empty whiskey barrels or tubs be better to keep them in, or empty meat barrels?—GROWER, Mountain View.

Shallow redwood vats, with the extractable matters removed from the wood by soaking and changing the water, as you mention, are most largely used for olive processing on a large scale. Any wood with strong savor like pine is very objectionable. It is desirable not to have too great depth of fruit while processing; consequently, vats not exceeding 2 feet in depth, and even less depth for the softer varieties,



are commended. On a small scale, clean barrels are successfully used. Whiskey barrels are safer from taint than meat barrels, although the latter can be cleansed by proper scalding, steaming and sulphuring.

Spaying and Fumigating.

To THE EDITOR:—Is it profitable to spay cattle, as our range gets overstocked and there are always more or less scrubs, and it is hard to work them off any other way to advantage? And which is the best time to do it—in spring, or summer, or fall?

Is there any solution—such as strong bluestone water, or anything else—in which grape cuttings, taken from a diseased vineyard, may be dipped to make it safe to put them out in a new vineyard, with no danger of phylloxera from them?—READER, Pope Valley.

We are aware that considerable spaying is being done here and there. It is rather a difficult operation, though some become very expert at it, and it is usually most popular in the neighborhood of these local experts, while in other localities it may be hardly practiced at all. As to the success of it as a policy, and how much it adds to range profits, we are not fully informed. We would like to have the views of our stock ranging readers on the point.

The easiest way to disinfect vine cuttings is not by dipping, but by using bisulphide of carbon, as we have frequently mentioned. The following detailed account of the operation from the University Bulletin on the phylloxera is seasonable and may interest many readers:

Place the cuttings in a barrel, vat, or box made tight by means of a thick coat of paint, or of paper pasted on the inside. On top of the cuttings place a saucer or other shallow dish, into which to pour the bisulphide of carbon. An ordinary saucer will hold enough for a box 3 feet cube or a 200-gallon vat. For larger receptacles it is better to use two or more saucers. Deeper vessels will not do, as the saturation is not sufficiently rapid. After pouring the bisulphide into the saucer, cover the box with an oiled canvas sheet or other tight-fitting cover, and allow to stand for from forty-five to ninety minutes. At the end of this time there should be a little of the bisulphide left. If it has all evaporated, this is proof that insufficient was used. No flame lights should be used, as the liquid burns easily and the fumes form an explosive mixture with the air. Care should be taken not to spill any of the liquid on the cuttings, as it may kill them. It is advisable to cut off about 1/2 inch of the lower end of the treated cuttings before planting, as the vapor injures the open pith. Besides disinfecting the cuttings in this way, all the packing material in which they come should be burnt, or, if valuable, dipped in boiling water. Practically it is impossible to disinfect rooted cuttings satisfactorily on account of the difficulty of killing all the phylloxera without seriously injuring the vine roots.

Sisal Hemp in California.

To THE EDITOR:—Will you give your opinion as to the suitability of the soil and climate of California for the profitable growing of the sisal plant, from which the fiber is used for the manufacture of rope. I have seen it growing in Cuba upon the hills surrounding the bay at Nueritas, and have thought that it might be grown here successfully, especially in the southern part of the State. I therefore appeal to your judgment for confirmation of my idea.—READER, San Mateo county.

We have no doubt there are places in California where the sisal plant will thrive, but localities have to be chosen with some discrimination, because it is reported to be quite sensitive to frost; not perhaps to the killing of the plant but to the injury of the ends of the leaves, which diminishes its fiber value. For this reason the effort to introduce the plant in the Southern States to be established on worn out cotton fields was not successful, although plants introduced in the south of Florida were successful. No doubt any of our desert regions would grow the plant well were it not that the temperature is liable to drop quite low, and that might be a fatal defect in the situation. But if perfectly satisfactory situations for the plant are found in California great difficulty will be experienced on the economic side; that is, to get labor cheap enough to make it possible to handle the product at a profit. In the regions where the fiber is now growing one can get labor for a fraction of the price paid in California. You should look at the matter very carefully before making investment, and if you would write to the Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C., you could get some satisfactory publications about the growth of the plant and the extraction of the fiber, which would give you data by which to measure conditions in this State.

Brine in Apple Drying.

To THE EDITOR:—I noticed some time ago in your paper, under the head of "Apple Driers' Methods," that the fruit after being peeled is given a bath in strong brine before it is cored and sliced and sulphured. What is the use or purpose of this bath in brine? Is this a new process?—READER, Fortuna.

The purpose is to prevent the browning or discoloration of the cut apple before they can be spread and brought into contact with sulphur fumes. Cut fruit was formerly put into clear water to prevent contact with the air and such discoloration. Brine seems to be more effective than water.

Winter Growing Forage Plants.

To THE EDITOR:—I would like to know if rape will grow in this vicinity and what time it will do the best? Will it be affected by frost? Also what kind of pea will do well and make lots of green feed? Can you suggest any grass that if sown this time of the year will make a strong winter growth and be profitable?—G. H., Lodi.

Rape will make a good winter growth in the interior valleys, except in the lowest places, where the heavy freezing may check it. On the plains generally it will make good growth if moisture is in constant supply. The common field pea is cheapest of the legumes, because the seed can be had at low rates, and it makes good winter growth under the same conditions mentioned for rape. Oats and peas sown together are a great success generally. Australian rye grass will make strong winter growth if sown now, and if your land is not too dry it will establish itself for years, making good fall and winter feed continuously. But there are many places too dry for it to do this.

Wild Rice for Duck Bait.

To THE EDITOR:—Will you kindly inform me as to the time and method of planting wild rice in fresh water pond for attracting wild ducks? Also where I can procure the seed?—READER, San Jose.

The best way to get detailed information about the cultivation of wild rice is to send to the Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C., for their Bulletin No. 50, which has just appeared and which bears the title "Wild Rice: Its Uses and Propagation." As for procuring the seed it is sometimes offered by San Francisco seedsmen at 25 cents a pound.

Pollination of Carobs.

To THE EDITOR:—I have one carob tree raised from seed several years ago. It is now in blossom, but so far as I can see the blossoms have no pistils at all—only male flowers. Are there in that sort of tree male and female flowers on separate trees, and is it not unusual that this tree is now in blossom?—J. C. MARAL, Placer county.

The pistillate bloom is on another tree; you can get nothing but flowers on yours. - We cannot at this moment recall the blooming season of the plant.

To Rid a House of Wood Rats.

To THE EDITOR:—Do you know of any method of eradicating mice, particularly long-tailed wood rats, from a dwelling? I have a few which got into my house in process of building. There is no way for them to enter now nor to escape entirely from the premises. I have tried traps and poison. They carried off poisoned wheat enough to kill all the mice and rats, I think, in the community, and yet only occasionally do I know of one being poisoned. It was my set purpose that I should so construct my house as not to have a mouse or rat in it, and yet I now have them, and desire greatly to get rid of them.—AN OLD SUBSCRIBER, Santa Paula.

Who can give good suggestions along this line? It lies beyond our experience.

Black-eye Peas for Green Manuring.

To THE EDITOR:—I send you a sample of what they call Black-eye peas, said to be an offshoot from the Niles pea. Are they as good as the Niles pea or the Canadian field pea for green manuring? They can be bought for a little less.—READER, San Francisco.

We believe that the peas of which you sent a sample will be as satisfactory as the Niles or Canadian peas. We see no reason why this should not be so. The pea is, however, a little larger, and, of course, the larger the seed the fewer plants you will get from a hundred weight of it. Your object is to get as many plants as possible, so that the consideration of size is worth taking into account. Whether the

Black-eye, or the Niles, or the Canadian will be best for your soil and winter temperatures can, however, be fully demonstrated only by an experiment, and you should sow some of each kind, just enough so that you can compare the growth. At the same time you would be justified in making your main sowing of this Black-eye pea as theoretically likely to prove satisfactory.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 16, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool weather has prevailed during the week, with occasional light frosts. The rainfall was general throughout the valley and amounted to over 2 inches in some places. The soil is now in good condition and plowing and seeding are progressing rapidly. Dry feed has become very scarce, and cattle were in poor condition in some sections, but green feed is now making good growth and will soon be plentiful. The rain caused a suspension of the shipment of grapes. The season has been the most profitable for several years for vineyardists, and nearly all deciduous fruits have yielded good crops. Oranges are ripening rapidly and large shipments are being made from Oroville and Palermo; prospects are good for a heavy crop.

Coast and Bay Sections.

The weather during the week was generally cool and cloudy, with fogs along the coast. Severe frosts occurred in some of the southern districts, but no damage resulted. The rainfall in the northern sections was heavy; at Peachland 3.06 inches rain fell in four days, and at Willets the precipitation for the week was 9.65 inches. Light rain fell in the southern districts. The soil is in good condition in nearly all sections and plowing and seeding are in progress. Pasturage was greatly improved by the rain and soon will be plentiful in the central and northern sections. The sugar beet crop is all harvested and other crops are under cover. Orchardists have commenced pruning. Cloverdale oranges are in good condition.

San Joaquin Valley.

Clear and cool weather prevailed during the fore part of the week and cloudy, warm weather during the latter. Rain began in the northern portion Saturday morning, and extended over the entire valley by Sunday morning. It was quite generous in the northern counties, but light in the central and southern portions. The rain was very badly needed, and will be of great benefit in putting the soil in condition for plowing in many localities. Seeding summer-fallow is progressing and farmers are busy plowing wherever the ground is in condition. A few small shipments of grapes were made during the week, but the crop has been harvested. A severe frost occurred in some sections last Monday. Olives are making good progress. Orange picking and shipping continue. Stock are healthy and in fair condition, but feed is scarce.

Southern California.

Generally clear and pleasant weather prevailed during the week, with a sprinkle of rain at San Diego Sunday. The raisin season has closed. Walnut harvest is progressing rapidly and will be completed in another week; the yield is light, but the nuts are of excellent quality. Potatoes are blighted where they were not sprayed. Citrus fruits are in fine condition and a large crop is probable. The weather has been very favorable for the orange crop, causing gradual and proper development, which assures an excellent quality of fruit. Bean harvest is practically completed. Plowing is progressing in some sections and will be general after the first good rain.

LOS ANGELES SUMMARY.—Cool week; threatening Saturday, but no rain reported. Oranges are coloring slowly; prospect for a large crop of good quality. Olive picking has begun; oil mills start soon. Shipping of early vegetables commenced.

EUREKA SUMMARY.—The rain was of incalculable value to the hill sections, but warmer weather is needed to insure sufficient feed for stock during the coming winter. Little farm work is being done. Snow in the hills 30 miles east from station.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, November 18, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.....	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average Seasonal Rainfall to Date.....	Maximum Temperature for the week.....	Minimum Temperature for the week.....
Eureka.....	.....	12.68	8.43	.....	.....	.....
Red Bluff.....	1.04	2.94	10.08	3.86	64	38
Sacramento.....	.98	1.68	3.68	2.75	64	44
San Francisco.....	.85	1.57	3.66	3.19	62	46
Fresno.....	.10	.18	2.43	1.41	72	36
Independence.....	T	T	.39	.88	74	34
San Luis Obispo.....	.02	.08	3.20	3.34	76	38
Los Angeles.....	.00	.43	2.32	1.64	82	42
San Diego.....	.00	.06	1.37	1.04	74	46
Yuma.....	.00	.66	.51	1.10	82	44



## METEOROLOGICAL.

### Weather Probabilities From Distant Forecast Investigations.

Written for the PACIFIC RURAL PRESS by MR. L. E. BLOCHMAN, Santa Maria.

There is nothing more speculative than to forecast a season's rain probabilities, even in the most general manner. It is sometimes even uncertain to forecast for twenty-four hours ahead, where weather bureau stations are available to note fluctuating conditions. It is generally assumed that no scientific value can be placed on distant forecasts. Seasons are so unlike in California that if we should assert that there are several characteristic types of rainy seasons it would be discredited.

The study of Pacific coast climatology is the most ignored of all sciences. It is really astonishing how few care to investigate this subject—practically none outside of the Weather Bureau, and their attention is necessarily so absorbed in "daily observations" that they can give the speculative field of "distant forecasts" but little thought. Besides, the heads of the Weather Bureau are not retained long enough in any one station to accumulate the tentative data that would afford a basis for such investigations.

To allow for a digression and an illustration: Some observers have remarked that this year's prevalent October low fogs were exceptional. We can assert that in October of 1885, just before a very wet season, they prevailed even more so than this season; also markedly so in October and November, 1880.

THE AVAILABLE DATA FOR DISTANT WEATHER FORECASTS VERY SLIGHT AS YET.—We claim that for observing weather closely at any one point some data for generalizations may be obtainable. This data is very slight, after all, and must yet be subjected to proper interpretation. After twenty years of close local observations, we conclude, however, that the October and November weather conditions may afford a possible forecast for the coming rainy season.

The factor of the great variability in seasons, and the comparison of the relative rainfall in the different parts of the State must be considered and the prevalent barometric phases studied.

We are aware that some seasons change phases during their usual four or five rainy-month period of the year, sometimes being wet early and dry in the latter half and sometimes the exact reverse, and sometimes rains coming well distributed throughout the season.

It is only assumed that the most general characteristics can at best be predicted, and that only in regard to a few salient points. But that rainy seasons can be analyzed, compared, their analogies and differences tabulated, may be considered as the beginning of the distant forecast study. For San Francisco, Sacramento and San Diego there are rain records since 1849; for other points, since more recent periods. We have examined every season carefully since there are available records, and for the past thirty years have a personal recollection of their characteristics. At this point we have kept daily records of rain, wind, temperature, cloudiness, etc., for about twenty years.

STRIKING VARIABILITY OF SEASONS.—We are on this coast in the periodic rain belt, which has far more seasonal regularity to it than the uncertain Atlantic side. But as we approach the lower coast the influence of the semi-arid and the arid belt makes itself felt. This produces extreme variabilities in seasons and strikingly arrests our attention to its causes.

For a single illustration, let us compare San Francisco with Los Angeles, the latter near the arid district. Los Angeles on an average receives two-thirds the rainfall of San Francisco. In the season of 1898-99 just about the average rain fell (23+ inches) in San Francisco, but Los Angeles recorded the scant amount of 6+ inches. Last season, however, when San Francisco had only 17+ inches, Los Angeles recorded 20+ inches, actually exceeding the rainfall of a point 450 miles farther north. Nor is this the only season of such relative dry and wet contrasts; there are several others to cite. How are we to account for such variabilities of seasons? Not to any variability in the rain-bearing area that strikes the northern coast, for that varies very little off the Oregon or northern California coast, but to the fact that this rainfall trends down the coast some seasons and other seasons it appreciably fails to do so.

Then, evidently, we must observe the conditions that go to make these drier and these wetter seasons, i. e., the type of weather generally that prevails in each different season. This is, of course, a study based on repeated observations. Only in a general way have we eliminated a few facts, in which the study of the High barometer area is the keynote to it all.

THE HIGH BAROMETER BELT THE BASIC CAUSE OF WET AND DRY SEASONS.—After years of my own blundering investigations of the course and variations of the low barometer area—that rain-bearing area that strikes the coast in winter between about the 40th to the 50th parallel of latitude—I suddenly real-

ized in the observations of the 1898 drought that the High Barometer area was the real cause of our variable rainy seasons.

If, therefore, seasons begin and show the characteristic prevalence of the High barometer area (which crosses the central part of the State) to a greater extent than normal, they are surely tending to the dry type; if contrariwise, they are tending to the wetter type.

But what is this High barometer area—this "Continental High," as it is more correctly called—in contradistinction to other high barometer areas? Between the periodic rain belt, or lower barometer area referred to above, and the tropical rain belt, 1500 miles and more farther south, there lies a rainless-bearing current, characterized by a High barometer. This in winter centers opposite Lower California, but in some seasons it tends farther northward and prevents the usual rainfall from trending down the coast. This is the cause of the more general droughts over the State, such as in 1877 or 1898.

But it is to the years of secondary influence, such as 1893-94, and other shorter rainy seasons over the southern coast and the central interior part of the State, that we now particularly refer to. In the San Joaquin valley and the lower Sacramento valley it is also more or less droughty in such seasons. The relative intensity of this High barometer area is the factor that will determine the character of the rainy season.

This same Continental High (so called because it reaches from the Pacific clear across to the Rockies) is the cause of the prevalent rainless summers over the whole coast; and, while it has an almost permanent summer trend, the winter trend is not at all as permanent. The apex or high point of this High barometer area shifts apparently several hundred miles north or south in different seasons. Evidently, the observation of the trend of the High area is the determining problem of the season's forecast. There is a difference between the High in the dry spell and a dry season in its intensity and persistency. These are factors yet to be determined. In a general way, the San Francisco Weather Bureau itself has had its attention called to the determination of the apex of this "Continental High." It was found highest in recent years, in the droughty December of 1897.

CONDITIONS OF THE CONTINENTAL HIGH IN A VERY DRY SEASON.—And well we can recollect that season, for on Christmas day we were treated, at this point of observation, with one of the driest and most scorching sandstorms that we have any record of in twenty years. This High barometer area crossed the State to the northward of this locality with high gradients which forced the air southward with violence, and by its dynamic force heated up the atmosphere. Any prevalent north winds in winter give a suspicion of the prevalence of this High barometer area. When this High barometer area does not prevail, rain-bearing areas from the northern coast pass southerly and give copious rains many hundreds of miles south of their point of contact with the coast.

TWO CONSECUTIVE SEASONS CONTRASTED AT TWO SALIENT POINTS OF THE STATE AND THE INFERENCES.—The northern part of the coast never has such extreme variabilities of seasons as the central and southerly, more on account of the different intensity of this High barometer area than for the distance the lower part of the coast is from the usual course of storm areas.

Based on this High barometer theory, many observations are explainable which otherwise would not be. Let us note a few: Whenever in November storm areas reach San Francisco's latitude with considerable precipitation (not mere tag ends of northerly storms), and the southward trend, as for instance, at Los Angeles, is disproportionately light, that season will be below the average in precipitation, especially south and in the San Joaquin interior. On the contrary, when the Los Angeles locality gets its average proportion, or sometimes even more, that season will be a favorable rainy season. Let us illustrate: In both Novembers of 1892 and 1893 about 4 inches rain fell in San Francisco, but in Los Angeles in 1893 only the pittance of 20 inches of rain fell—and that season (1893-94) gave Los Angeles no more rainfall than in the 1898 drought. On the other hand, in November, 1892, about 4½ inches rain fell in Los Angeles, and the season was very wet throughout. Here is the relative rainfalls for these two seasons:

San Francisco.		Los Angeles.	
Inches.		Inches.	
1892-93	22	1892-93	26½
1893-94	18½	1893-94	6¾

Basing our observations on such contrasting conditions, I predicted in December, 1900—a then utterly dry month, which sometimes does come in average rainy seasons—that the season south would not be drouthy, but that copious rains would come in January; all because the previous November rains in Los Angeles were even heavier than in the San Francisco latitude. Why this should be so has, according to our theory, as reasonable an interpretation as any 24-hour forecast that the Weather Bureau bases its predictions on. More usually these heavier precipitations southward are due to the fact that storm

areas enter the coast at a more southerly point—for instance, between Eureka and San Francisco—instead of off the Washington coast. In drier seasons storm areas never enter so far south, for they never can approach so close to the Continental High, which has its baneful sweep across the State usually between Point Conception and the bay, thence across to northern Utah and southern Wyoming.

The intelligent observer, lay or scientific, will ask the question: What atmospheric conditions prevailed in one season south as compared with the following season? To the meteorological observer relative barometric pressure is the first and most important consideration, then the direction and intensity of winds and temperatures. If certain characteristic weather goes with wetter seasons and different characteristic weather with drier seasons, it is evident that, if we can determine this characteristic weather condition, we can infer the trend of the season. The difficulty lies in the exact determination of this factor, especially in determining a temporary dry spell—for instance, from the typical dry season weather. Barometer and winds are apparently similar, and yet there is a characteristic difference even between them, and particularly, as more than once referred to, in the intensity and fixedness of the Continental High (barometer) area.

INFERENCES FOR THE PRESENT SEASON.—Perhaps nothing would better illustrate than to analyze our opinion of the present weather conditions as prognosticative of the near-by season's rainfall. For a full week northerly winds have prevailed here (N. E. to N. W.); a high barometer area separated us from the lower barometer rain-bearing area to the north of us. This at first seems a somewhat unfavorable condition, and would be so if the weather map showed the fixedness to the High barometer area that dry-season Novembers begin to show.

So far this season's High barometer areas have been very variable. Recently it has only been the accompanying conditions of the (as yet) very northerly trend of storm areas. The real winter's rain over the State has not begun yet; we have only received tag ends of Vancouver and Washington storms. In the meanwhile we may, nevertheless, analyze the atmospheric conditions prevalent during these northerly winds. They have been all cool, with some degree of moisture, not hot nor dry, and when they have ceased blowing the weather has assumed a still moister phase characteristic of it throughout October. The whole of the October weather, with its characteristic low fog, is more akin to wet season Octobers than to dry. So the consensus of weather conditions so far favors a wetter season than last. On account of the tardiness of the rainy season's opening, we should look for good rains toward the end of this month and in December. So that up-to-date weather conditions trend us to forecasting a very wet December. It will not take very long to prove or disprove our theory.

November 12, 1903.

## THE FIELD.

### Trouble Between Bee Men and Alfalfa Growers in Nevada.

Gleanings in Bee Culture gives the following story: It is a well-known fact that Nevada produces many earloads of fine alfalfa honey. So much of it is shipped out of the State that the alfalfa growers and cattle men are getting their heads together, arguing that all this sweetness is just so much saccharine matter taken out of their hay. One of the largest ranchers is a representative in the legislature of Nevada, and it appears that efforts are on foot to get a law passed at the next session of the legislature prohibiting bee keepers from locating bee yards within flight of the alfalfa fields. This would practically mean the wiping out of all bee keeping interests in a very important honey producing State, and, besides, setting a dangerous precedent for other States. The argument made by the cattle raisers and ranchers is this: Carload after carload of alfalfa honey is being shipped out of the State. The best hay is the first cutting, and the first crop of blossoms is also the best for the bee keeper. They argue "that a ton of honey probably represents the essence of 200 tons of alfalfa, and that the hay is just that much poorer in saccharine matter. It stands to reason that you cannot take all of this honey out of the hay and still have it as rich in saccharine matter." In this day of progress and scientific investigation it is staggering to hear such talk. Of course, the bee keepers are ridiculing such sheer nonsense, for it cannot be based on anything else than consummate ignorance and prejudice. It is a well-known fact that red clover hay will not develop properly unless there are honey bees or bumble bees in the vicinity; that attempts were made to grow the plant in Australia, but it failed miserably until the bumble bees were introduced. [This has been shown to be a fairy story, if we are not mistaken.—Ems.] Exactly the same thing will apply in growing alfalfa. While it would be too much to claim that this kind of hay cannot be grown without bees, yet it is safe to say that a much poorer crop would



be the result without them. We can also assert, without fear of successful contradiction, that the best scientific men of the world, as well as professors in all the agricultural colleges, can show that the assertion of the cattlemen is utterly without foundation.

The animus of this whole thing is, evidently, jealousy. Whenever one class of citizens make a little money there are plenty of people who will be envious of them. I do not know what the National Association is doing or has done about the matter, but I do not believe its 1500 members will allow any such foolish and ignorant legislation to come to pass without a vigorous fight. Like the other case reported in these columns, the whole thing is so ridiculous that I think the bee keepers will be easily able to thwart any efforts that may be made to pass a law of this kind. But we must not be overconfident. We must be alert, and ready to know what the opposition proposes to do, and meet them half way.

The foregoing is rather lively and interesting. So far as we can judge from the statement, the writer meets the claim that the alfalfa is better feed with the honey in by the counter claim that alfalfa cannot be grown without bees. Does not the claim about the bees' service pertain only when the alfalfa is grown for a seed crop? As for the cattle men's claim about the higher value of alfalfa hay which has not been relieved of the nectar of the blossom by bees, that would have to be determined by growing alfalfa under a screen, and showing by analysis that it had a greater saccharine content than alfalfa outside which the bees had worked upon.

## FRUIT PRESERVATION.

### A Slander on Growers of Fruits and Vegetables.

TO THE EDITOR:—In Bulletin No. 57, issued under date of September, 1903, by State Food Commissioner E. F. Ladd of North Dakota, there is a statement, or rather an insinuation, of special interest to those of your subscribers who are fruit growers or market gardeners as a dangerous covert attack on their industry. The insinuation is contained in this paragraph of the bulletin:

The question then may fairly be asked, What is the source of the sulphites and formaldehyde found in the several samples which we have mentioned? If sulphites were not employed in the process of preparing or preserving the fruit, and it did not occur in any of the products used in the process of canning, then the sulphites must have been in the fruit before they reached the factory. We believe the same statement may be made with regard to formaldehyde. Either they were added at the factory or they were added to some products before being brought to the factory. Instances might be multiplied, so that we do not believe it can be attributed to any accident. Is it possible that the producers or shippers of the berries are using preservatives, in some instances, the active principle of which is sulphites and in others formaldehyde? It is a well-known fact that the manufacturers of these preservatives are pushing their sales and advertising extensively. Future investigation must determine whether this supposition is correct.

THE EXPLANATION OF THIS UTTERANCE.—About a year ago, Commissioner Ladd thought, or imagined, or dreamed that he had found formaldehyde in certain canned goods and announced his discovery. As nobody uses formaldehyde or any other preservative in canned goods, Commissioner Ladd was considerably ridiculed for his pains. For the sake of his reputation it was desirable that he should again find formaldehyde in canned goods. He did so; this time he also found sulphites. The manufacturers of the canned goods—firms, as it happened, of unimpeachable character—were, of course, not in a position to deny that Commissioner Ladd had found formaldehyde, or sulphites, or anything else he chose to put a name to, in their hermetically sealed tins. But they were in a position to convince any reasoning being that they had not put any formaldehyde or sulphites in the tins, and that no formaldehyde or sulphites could possibly have got into them from the moment they were sealed until the moment they were opened in Commissioner Ladd's laboratory. This they were able to make perfectly clear to Commissioner Ladd's mind. Granting for the sake of the argument that Commissioner Ladd actually found formaldehyde and sulphites in those hermetically sealed tins, their presence is to be accounted for only on one of two theories—either they got into the cans after they had been opened in Commissioner Ladd's laboratory, or they were in the fruits and vegetables before they reached the canners. Commissioner Ladd, naturally, cannot afford even to recognize the existence of the former possibility. He had no recourse but to adopt the latter theory and, accordingly, he adopted it.

So wherever Bulletin No. 57 goes it carries with it, to poison the public mind, the germ of suspicion that the fruit growers and truck growers throughout the country are soaking their products in, or spraying them with, dangerous chemicals before marketing them.

MANUFACTURERS GUARDING THEIR INTERESTS.—Since the honest manufacturers of food products, under the leadership of this association, have begun to make a stand for their rights and their reputation against the vagaries of certain State food commissioners, we have noticed that this theory has become a favorite one among these officials. In order to justify their official existence and get appropriations, they have to find formaldehyde, sulphite, etc., in food products, and must hold somebody outside their own laboratories responsible for these "adulterations." Since the manufacturers have begun vigorously to repudiate this responsibility, a tendency to place it on the shoulders of the fruit growers and market gardeners has become apparent.

WHAT SHALL THE GROWERS DO?—You know how the fruit growers and truck growers will be affected by this tendency if they don't meet it and check it. The industry we represent and the industry you represent are so closely allied that you are aware of the suspicion that has been cast on our industry and the injury that has been inflicted upon it by similar means. Our industry has rebelled. Now it is your turn. You know and we know that this charge against the growers is as absurd as it is abominable—that they are under no temptation to treat their products with formaldehyde, sulphites, etc., before sending them to our factories, and that, as a matter of fact, they don't do anything of the kind.

But the public doesn't know it, and the public, which is in a decidedly panicky frame of mind in regard to "food adulteration," is ready to believe any sensational yarn started by a food commissioner and exploited by the daily press, which, with a few rare exceptions, is as panicky and unreasonable as the public. And if the public once gets the idea in its head that fresh fruit and vegetables are "poisoned," the growers will be as unpleasantly made aware of it as were the grape growers of the prevalence of the notion that grape seeds were the specific cause of appendicitis.

REMEDY IN A LAW.—Our respective industries are so closely related that whatever hurts either hurts both. We have called your attention to this reckless attack on the growers, in the hope that you may be able to meet it and defeat it. We would suggest that earnest and persistent advocacy by you of a uniform national pure food law, administered by the reasonable and responsible United States Department of Agriculture, would prove a very effective weapon in the fight.

You can count on any assistance we can afford, and we shall be always glad to hear from you on this subject, or any other of mutual interest.

THE ASSOCIATION OF MANUFACTURERS AND DISTRIBUTORS OF FOOD PRODUCTS,  
GEO. F. WARREN, Manager.

Rochester, N. Y., Nov. 9.

This seems a very simple proposition and easily answered. To claim that California growers of fruits and vegetables for canning use any of the chemicals mentioned, or anything like them, on their products before delivery to the canners, is an ignorant slander. As Mr. Warren says, the growers have no need nor any incentive to treat their produce for preservation; the canners look out for the preservation end of the business, and, as Mr. Warren shows, they are looking out for their own interests in this connection. It is simply stupid nonsense to claim that the stuff is doctored by the growers before they deliver it to purchasing canners.—ED.

## THE APIARY.

### The Introduction of Honey Bees to California.

By MR. J. S. HARBISON, at the Los Angeles convention of the National Bee Keepers' Association.

My father kept bees from my earliest recollection, and I became the owner of bees at quite an early age, and did much of the work of taking care of my father's apiary, which consisted of probably 50 hives at most.

I came to California in 1854, landing in San Francisco on November 20. My first experience was the importation of fruit trees, which I carried on for two years. During those two years I studied the flora of California, and became satisfied that bee keeping would succeed. After I had made a shipment and returned, I sold out my tree and nursery interests in the winter of 1856, and returned—say in April, 1857—with the intention of preparing a shipment of bees for California, and I made that shipment, as I did not know of there being any bees in California until after my getting the shipment to California.

HOW THE BEES WERE BROUGHT.—When I returned to my home in Lawrence county, Pa., and there prepared my bees, I took chosen lumber, had it sawed out about  $\frac{3}{4}$  inch thick and made boxes of about 1 cubic foot capacity. I made them light, because we had to pay at the rate of about \$1 a pound freight from Newcastle, Pa., to Sacramento; hence it required economy in preparing the hives. When I was

ready to ship them I added a chamber of about 3x8x13 inches, as a place for them to get off their combs and carry out their dead during the voyage, and that was ventilated by a wire net, giving some 10 inches of wire ventilation.

I started with 116 of these colonies and got all through except six. Six were entirely dead on arrival. Of course, they were all reduced in numbers.

THE STARTING.—When I prepared these to ship in November I had to take them on canal boats from Newcastle, Pa., to Rochester, on the Ohio river, and from there on a steamer to Pittsburg, and from there by rail. They were taken to the union depot in Pittsburg—hailed in there, perhaps, about 1 or 2 o'clock in the afternoon, and the train did not go until evening. While they were being transferred by the express company I was to have supervision and direction, so I stayed pretty close to my bees during that time, and as people came into the train, as is usual preceding its departure, the hives sat there, very plainly marked "Sacramento, California." I heard many uncomplimentary remarks. Some of those people had been in California. There were no bees there; there was nothing for them to work on when they got out there. There must be some fool—and some put it a little stronger than the simple word fool.

Very near train time, however, there came along an undersized gentleman, very nicely dressed, and he took in the situation, looked around, singled me out as the owner, and said:

"Are you the owner of these bees?"

I said, "Yes."

"I see they are marked for shipment to California."

I said, "Yes, I am going to take them to California."

He said, "Have you been there?"

I replied, "Yes."

"Have you ever been engaged in bee keeping?"

I said, "Yes."

"Do you know you can get them there?"

"Yes," I said, "I have letters from the head agents of the steamship companies"—naming them, that is, the steamship companies in New York and the Panama Railroad. "I have arrangements made by which I am assured of every facility at their disposal for getting them through."

These questions were so pertinent, and the people became so interested, that there was a great crowd around. Then the murmur started—what a great enterprise it was, what a great undertaking. This gentleman shook hands with me and said, "I hope you will get there safe. Indeed," he added, "I am very sure you will, for you understand the business." It made it a little bit trying for me. I was comparatively a young man, but very resolute and self-willed. I got them through. Every facility was afforded me. I went down with Captain R. L. Whiting of the steamship Golden Gate. I had made his acquaintance on my trip down to Panama, told him of my plan, and he said, "If you should be so fortunate as to connect with my ship in going out, I will take great pleasure in affording you every facility in my power."

When I reached Aspinwall with my bees, who should I meet on the gangplank but Captain R. L. Whiting? He recognized me at once, inquired if I had the bees, etc., and congratulated me that I was getting along all right, and gave me some information as to getting them across the isthmus. And so, with the kind assistance of those men who were willing to assist in the introduction of new enterprises into California, I got there and made a success of it.

PIONEER PRICES.—Then the bees sold readily for two years at \$100 a colony in Sacramento. My "dollar hives" increased somewhat in value when they were sold at \$100. I presume there are some of you bee keepers here who probably paid something like that for bees. I knew colonies that I had sold at \$100 were resold by other parties at \$200, and then they made money out of them.

AN EARLIER IMPORTATION.—That is my experience in the importation of bees into California. After I got them here I found about nine colonies had been imported before mine, but by a man who had no knowledge of the handling of bees. One man had to have some knowledge. I think his name was Howell, and he was killed by the blowing up of the steamship Jenny Lind in San Francisco bay, or somewhere in those waters. I think he had brought out three colonies. So that defeated his establishing the business. These bees were taken to San Jose, a place not so well adapted to bees as the Sacramento valley. So, while I did not bring the first bees to the State, it was my experience and success in increasing and showing what could be done with them that started the business of bee keeping in California.

EXPERIENCE.—My first year was devoted to increase. I worked for honey considerably in 1858. I invented my hives, and invented section boxes there in Sacramento in the winter of 1857, after I got the bees out. I made the first exhibit of section box honey at the California State Fair, held in Marysville, September, 1858. I took the highest premiums that were given. I sold those sections at \$2 each, two pounds in a section. That was \$1 a pound, and it sold readily.

(TO BE CONTINUED.)



## Agricultural Review.

Alameda.

VINTAGE OF 1903.—Livermore Herald: The Wetmore-Bowen Co. made 75,000 gallons of wine this season. The white varieties were the only ones crushed at their wineries, with the exception of a small amount of Cabernets. Superintendent McNally of the California Wine Association reports a highly successful vintage. He states that 350,000 gallons of first-class wine was made at the Pioneer Winery during this season. This required 2400 tons of grapes, all raised in this valley except 230 tons, which were shipped to this place from Lodi. H. B. Wagoner reports the best season, with one exception, since he began business. His winery is still receiving and will not cease crushing grapes for three weeks yet. He will have crushed fully 1500 tons by that time, placing his winery second in the valley in point of output. He has put in 60,000 gallons of new cooperage which will be filled before the season is over. Jas. Concannon reports an excellent vintage. He crushed more grapes than usual. His own crop was about equal to last year's and he purchased the crops from several vineyards. C. H. Wentz reports a good vintage. His own vineyards are extensive enough to furnish about all the grapes he can handle at his winery. Dr. H. N. Cross had an exceptionally good season at Dos Mesas. The crop of grapes was larger than usual and of excellent quality. We have been unable to secure any report from Olivina, Chateau Bellevue, Ruby Hill, Mont Rouge and Mrs. True, but it is currently reported that all of them have enjoyed a good yield from their vineyards and that the output of their wineries has been satisfactory both in quality and quantity.

GROWING OF OAK FOR CORK BARK.—Niles Herald: "Fortunes await young men who will go into the coast counties of California and plant or set out trees where the natural forests have been denuded, from which cork is made," declared John Rock of the California Nursery one day last week. Few people are aware of the manner in which the common "cork," as it is familiarly called, is produced, and hardly any one knows that it can be successfully grown here, but it is a fact nevertheless. The first stripping of cork from the young trees takes place when about fifteen years old. The yield is rough, unequal and woody in texture, called virgin cork, and is used only for floats for nets, life preservers, rustic work, etc. The bark is then removed every eight or ten years, and the trees thrive under the operation 150 years or more.

Butte.

ORANGES AND IRRIGATION.—Gridley Herald: A. W. Campbell, whose place is on the river southeast of Gridley, has sold his crop of oranges on the trees to George Gifford of Montana, the buyer of the crop last year and the price is the same as was paid in 1902. While the amount of money received is not given out, Mr. Campbell says the four acres of oranges netted him \$100 per acre last year, and this year the crop is better, if anything, than last. The trees are larger and some of the younger ones have come into bearing. Mr. Campbell says the expense of caring for the trees has been nominal, the cost of irrigating being represented by the \$7 paid for gasoline to run the engine and enough of this is left to suffice for another irrigation. The orchard was irrigated but four times during the season, and the labor being supplied by the hands on the ranch was not figured in the statement of expenses.

Fresno.

PUMPKIN CONTEST.—Democrat: Additions to the collection of R. D. Chittenden for the Fresno exhibit at the World's Fair are being made daily. The call for pumpkins has resulted in a sharp contest, the latest addition being a specimen from Eugene Charroux of Perrin colony. It weighs 13½ pounds and leads the list on the smooth varieties. Mrs. William Hoag holds the record on the rough-surface varieties with a 142-pounder.

WILL LIMIT CATTLE.—Republican: C. H. Shinn, head forester for the northern division of the Sierra reserve, says the rangers are now preparing their reports to be sent to Washington in regard to the pasturing of cattle on the ranges, and this year the number of cattle allowed on the Government reserves will be considerably limited. On account of the poor condition of the ranges, the cattle did not do well last year, the ranges being considerably overstocked. Many of the cattle came out poor, and this condition is unsatisfactory to the cattlemen, and the presence of more cattle than the ranges can sup-

port is extremely injurious to the land. The limitation of the cattle will be done in such a way that the owners living along the border will have the preference, and non-resident owners will have to bear the brunt of the partial exclusion rule. The range hogs will not be permitted to roam at will over the ranges, either, and the owners have been given notification to that effect. This order will be put into force gradually so as not to work a hardship.

SMALL FARMS NEAR REEDLEY.—Exponent: J. H. Duff owns ten acres adjoining the townsite of Reedley on the east. Up to the present time he has had only five acres of this in cultivation. He bought the property two years ago and is making a very nice home of it. It is put out to fruit trees and for the last two years, the time he has had it, he says that he sold his crop outright for \$500. Then he keeps from 150 to 250 chickens, and by careful account each chicken brought him clear \$1 per year, besides the eggs and chickens used in the household. He has a family of three and has a great deal of company with them. He has not spent more than two months of the year in the care of his place.

F. S. Clifton has twenty acres, 2½ miles south of town, which cost him \$50 per acre for the raw land. It is all planted to fruit trees and alfalfa. He says that for the first four years the place about repaid him for his time and the money he put into it. Now he estimates that the place clears him \$500 above living expenses. While his orchard was growing he raised pumpkins, melons, corn, etc. He would not sell for \$3500. In 1900, he bought sixteen acres improved adjoining his. That year he sold the raisin crop for \$1900 and to the winery \$300. In 1901 the crop was sold for \$2100 and to the winery \$200, and for 1902 it was about the same.

Kern.

UMBRELLA TREE BERRIES KILL HOGS.—Echo: A. E. Beckes says that he is now in a position to verify the statement, heard occasionally, that the berries from umbrella trees will kill hogs. Mr. Beckes had some 125 head of hogs on his place west of Wasco, and in the field where they run are a large number of umbrella trees. The heavy wind of last Thursday afternoon shook down the berries, and the next morning six of the hogs were dead. The man who is looking after the hogs cut into the stomach of one that died and found a mass of the umbrella berries. Others that were sick threw up larger or smaller quantities of the berries, stuck together in indigestible wads. It seems to be a little uncertain as to whether the berries are really poisonous or whether the injury they do is simply from clogging the hog's stomach and intestines.

Kings.

BIG IRRIGATING DITCH.—Hanford Journal: Preparations for the commencement of operations on the Lake Land Canal & Irrigation Co.'s ditch are now being made. Two 40 H. P. boilers have been purchased and placed on the ground near the point where the head of the ditch is to be, and the construction of an immense dredger will be pushed to completion as soon as the necessary material can be obtained. This dredging machine, which is to be floated on a barge, will have a guaranteed capacity of 200 cubic yards of earth per hour, or 4000 cubic yards per day. When once begun, work will be kept up night and day, two shifts of men being employed.

A GOOD VINEYARD.—Hanford Sentinel: Donley Gray states that the work for this season on his mother's place is practically completed. From the 120-acre vineyard on the place they harvested 181 tons of stemmed raisins, having stemmed and boxed the crop themselves, and also picked about 200 tons of winegrapes from the second crop of grapes.

Los Angeles.

SHIPMENT OF ORANGE TREES.—R. M. Teague of San Dimas recently made a shipment of 250 cases of Washington navel orange trees to six different Government experiment stations in Italy. The same shipper lately sent a consignment of trees to Cape Town. A car contained 5066 trees, and was the fourth consignment of a carload to the same place.

Merced.

FIGS ON TREES AT \$64.33 PER ACRE.—Star: J. R. Rogers, who has a 15-acre lot in Yosemite colony, on which are 652 fig trees, sold this year's crop on the trees for \$850, the purchaser doing the harvesting, drying, sulphuring, etc., with Mr. Rogers' utensils. The product was twenty-six tons of dried figs, which were sold for \$80 per ton.

Orange.

GOOD SALES OF ORANGES.—News: Wilson & Gilman of Orango report the

sale of two cars of Valencia last week, as follows: One car, shipped October 14, containing 86 boxes fancy and 276 boxes choice. And please note the sizes—12 boxes 64s, 50 boxes 80s, 141 boxes 96s, 5 boxes 112s, 107 boxes 126s, 39 boxes 150s, 8 boxes 176s. New York reports this as the banner sale of the year, when sizes are taken into consideration. This car grossed \$1607. Car shipped October 16, containing 104 boxes fancy and 258 boxes choice Valencia, with sizes even larger than the above, grossed \$1437.

THE SAN JOAQUIN RANCH.—Anaheim Gazette: Final estimate of the season's crop on the San Joaquin ranch puts the yield of barley and wheat at 250,000 sacks and the yield of beans at 65,000 sacks. Besides the grain and beans, the ranch this year has 160 acres of olives and the same number of acres of walnuts. The coming season will see much more land devoted to bean growing than ever before.

San Joaquin.

FLAX RAISING.—Stockton Independent: Lee A. Phillips, manager of the Middle River Co.'s large operations in the reclaimed land section west of Stockton, and Justin Kay Toles of Chicago and Los Angeles, an expert on linen, have under consideration the cultivation of a tract of 500 acres of reclaimed lands for the production of flax and the erection of a mill to produce a marketable linen fiber that readily sells at 10 cents per pound throughout the East. It is believed that their investigations will result in the introduction of a new industry in San Joaquin county that will add a profitable crop for a large section of the peat lands and give employment to considerable skilled labor. Mr. Phillips has selected a tract of 500 acres of the Middle River Co.'s lands for flax raising the coming season, and Mr. Toles has arranged for the necessary machinery to be placed in a mill on the company's lands for the production of the fiber. The expense of cultivation and harvesting will be about 25% of the output. Thus there is an annual profit to the farmer of about \$60 per acre. The seed is sown to make a thick stand, and when the plants are nearly matured they are pulled up by the roots, for the whole plant must be gathered to secure the best fiber. It is, therefore, necessary to harvest the crop by hand and tie the stalks in bundles. The flax is then treated to a "retting," or rotting, process, which is still a crude method of water soaking and fermentation, to separate the fiber from the bark of the stalks. Machinery has been devised for that work, but its use has not been successful so far, though Mr. Toles plans to handle the crop to be raised here in machines. The old-fashioned way of retting flax is to deposit the bundles of flax stalks in ponds of water about 4 feet deep, and then cover the plants so they are held under water for about ten days or two weeks, when the process of fermentation is complete. The flax plants are then laid out to dry, and when in proper condition they are put through "scutching" mills, which free the fiber.

MOROCCO GRAPES \$5 PER CRATE.—Lodi Sentinel: The very top of the New York grape market was reached last week when Morocco grapes from E. G. Williams & Sons sold for \$5 per crate. The vines from which the grapes were picked are about eight years old.

RETURNS FROM VINEYARDS.—Stockton Independent: G. R. Couper sold 1500 crates of Tokay grapes in 1903 from his four acres of vines near Lodi. He received from \$1 to \$1.50 per box for them. It cost him 50 cents per crate to pack and deliver them to Chicago. His returns were about \$300 per acre net. George Covell and brother own a 300-acre vineyard near Woodbridge. In 1902 their crop netted them \$200 per acre. The yield was from 15 to 20 tons per acre. A few years ago Messrs. Covell sold 100 acres of twelve-year grape vines for \$300 per acre. Now the purchaser refuses to accept \$700 per acre for the same property.

San Luis Obispo.

BIG ONIONS.—Tribune: J. M. York, who lives near the head of Morro bay, brought in four large brown Australian onions to the Board of Trade. The onions are nearly of a size and one of them measures 1½ inches in circumference. They weigh upward of three pounds apiece.

Santa Clara.

PRUNES.—San Jose Mercury: There is no change in the prune situation. Some packers are quoting Santa Claras at 2½ cents bag basis, others are holding at 3 cents. The jobber is therefore uncertain as to the outcome and is offering 2½ cents to be on the safe side, and he does not seem to be particularly anxious whether he gets in at this price or not. The impression is that the packers are to blame for the present situation. They have repeatedly broken their price, which was supposed to be 3 cents for four sizes, and it is certain that some of them at least cannot have made much profit this season. If some of the packers prefer to quote at 3 cents until the revival of inter-

## Horse Owners! Use GOMBAULT'S



## Caustic Balsam

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blenches from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blenish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular. THE LAWRENCE-WILLIAMS CO., Cleveland O.

## A Good Fence



Nothing Stronger, Better or More Economical Than

## Truss and Cable Fence

Unlike barb wire it is easily seen and is as harmless to stock as a board fence. Each strand is stiff and rigid as a board. A steer cannot break it, horses cannot crowd through it and there are no barbs upon which they can injure themselves. Lasts twice as long as barb wire.

Write for descriptive circular.

PACIFIC HARDWARE & STEEL CO.  
401 Mission Street, San Francisco.

## THE "BOSS" TREE PROTECTOR.

Made of Yucca Palm.



Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

PRICES:

	12 inches	long	\$ 9.00	per 1000.
14 "	"	"	10.00	"
16 "	"	"	11.50	"
18 "	"	"	12.50	"
24 "	"	"	15.00	"
30 "	"	"	17.50	"

Agents Wanted  
Everywhere.

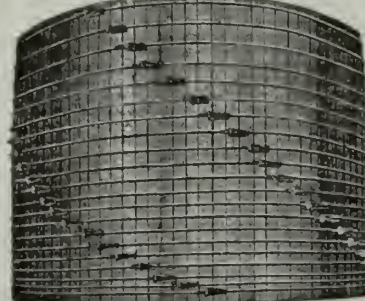
YUCA MANUFACTURING CO.,

450 Santa Fe Avenue,

Los Angeles, Cal.

## OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

## The Excelsior Redwood Co.

SOLE MANUFACTURERS,

Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET,.....SAN FRANCISCO.



est in this commodity in the East, and if the growers continue to hold on as persistently as at present, there is no doubt but that the balance of the packers will have to come to this basis or sell at a loss.

**CORN WILL GROW, IF WANTED.**—San Jose Herald: Many persons in the East have an idea that corn will not grow in California. This is erroneous. There are lands in Santa Clara county which grow corn and pumpkins to delight the heart of any Missourian. Still Santa Clara county people do not plant much corn, for the lands pay such vastly larger returns in other crops, even though the yield of corn may go from 60 to 80 bushels to the acre.

Santa Cruz.

**FRUIT NOTES.**—Watsonville Pajaronian: The Pajaro valley apple crop will soon be marketed. The work of picking and packing has been conducted this fall with much less delay than usual. Rains held off well and thus the work of picking fruit was facilitated.—E. K. Cassab shipped eight carloads of dried fruit from Pajaro this week. Mr. Cassab has made large purchases of prunes at Paso Robles and the fruit will be graded and packed in 25-pound boxes at Watsonville for European shipment. These purchases aggregate over 600 tons.—Progressive orchardists in Pajaro valley are convinced that judicious summer spraying is the best paying investment that can be made. They do not condemn the system because some trees were burned this season with Paris green spray, and they are right. The laws governing horticultural interests in this State should be made so stringent that one orchardist should not be allowed to menace the fruit crop of his neighbor by failing to spray his trees. In order to rid a section of fruit pests it is vitally important that all orchardists should pool their interests and wage an unrelenting warfare.

Sonoma.

**HOP CONTRACT.**—Santa Rosa Republican: A hop contract has been entered into by Messrs. Farmer & Peterson with D. S. Murray, representing William Uhlmann & Co., for the hop crop for the coming five years. Farmer & Peterson are probably the largest hop growers in the county, having at the present time 180 acres. To this they expect to add materially in the near future. The price

at which the hops were contracted is 12½c. and the hop firm agrees to take 300,000 pounds from the growers each year of the contract.

Sutter.

**EXHIBITS TO DEPARTMENT OF AGRICULTURE.**—Yuba City Farmer: W. F. Bird of this place has sent samples of his Imperiale prunes to the United States Pomological Bureau of the Department of Agriculture, which, with other exhibits of various fruits, will be used as an argument for the establishment of the proposed United States government experiment station in this county.

## CUTTER'S BLACK LEG AND ANTHRAX VACCINES.

CALIFORNIA'S FAVORITES.

The Lowest-Priced Reliable Vaccines.

Cutter's Anthrax Vaccine has been used this season in the worst infected territory in the State, and has not failed in a single instance to check the progress of disease.

Cutter's Black Leg is the most favorably known vaccine in use in California to-day.

Write for booklet.

THE CUTTER LABORATORY,  
Rialto Building, San Francisco.

**CHEAP RATES** California, Washington Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

 No Smoke House. Smoke meat with **KRAUSERS' LIQUID EXTRACT OF SMOKE.** Made from hickory wood. Gives delicious flavor. Cheaper, cleaner than old way. Send for circular. E. Krauser & Bro., Milton, Pa.



**FOUND \$7.  
FOR**

**A CREAM SEPARATOR** that does the work perfectly, AUTOMATICALLY, without power or chemicals, in 30 minutes. **GUARANTEED.** Agents wanted, either sex. Address **TALLEY SPECIALTY CO.,** Dept. G Los Angeles, California.



**THE ARNDT  
Tree Protector!**

A perfect, inexpensive protection against all creeping and crawling insects. **Agents Wanted Everywhere.** **WRITE AT ONCE.** Michigan Cut Flower Exchange. Wm. Dilger, Mgr. Sole Distributors, DETROIT, MICH., U. S. A.

## National Wood Pipe Company MANUFACTURERS OF REDWOOD WATER PIPE

From 3-in. to 10-ft. in diameter for

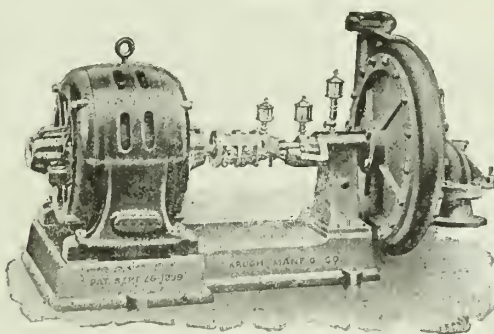
**Water Works,  
Mining and  
Irrigation Plants.**



CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can be easily taken up and relaid, as it is absolutely indestructible. All pipe sold under an absolute guarantee. We contract for complete irrigation systems. Illustrated catalogue sent on application.

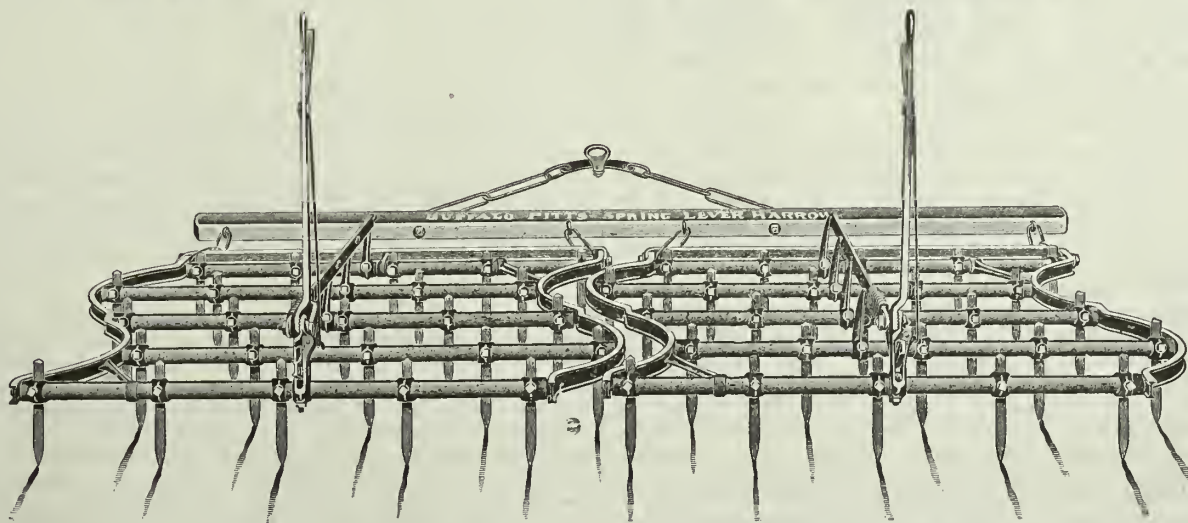
**NATIONAL WOOD PIPE COMPANY,** 6th and Mateo Sts., LOS ANGELES.  
301 Market St., SAN FRANCISCO.



**TRIED  
AND  
TRUE  
KROGH  
PUMPS.**

First and last and always best for all kinds of work. Send for our Catalogue "L." Address **KROGH MANUFACTURING CO.** 519 Market Street, San Francisco.

# BUFFALO PITTS HARROWS



## Spike Tooth, Spring Tooth and Disc for Field and Orchard.

The best line of Orchard and Field Harrows in the world.  
Write for Circulars and Prices to

# Baker & Hamilton,

SACRAMENTO.

SAN FRANCISCO.

LOS ANGELES.



# The Home Circle.

## Unsung.

Who sings of the farmer?

Grand old player of uphill game,  
Spurred by no prize of wealth or fame;  
Game which calls for a soldier's will,  
Game which demands a sailor's skill;  
Single-handed fencer of woes,  
Deeper than buffets by human foes;  
Wager of ceaseless, stubborn fight,  
All the year, every year, day and night;  
With ill-timed drought and drench and cold.

With the wasted crop and the stricken fold,  
With prospects of plenty rudely nipped,  
With the garden bared and the orchard stripped;

Disappointed and sick at heart,  
Weary of playing a victim's part,  
Weary of promises unfulfilled,  
Of shattered plans and of projects killed.  
Still he plays on: still day by day  
Girds himself bravely to the fray,  
Pays up the loss and takes the blow,  
Grimly smiles at each overthrow;  
Hopes against hope, to the creed he clings,  
End must come to the worst of things;  
So the years pass. Then the Final Call  
Bows the brave head, and back to the wall,  
Facing his world of sorrow, not shame,  
The grand old player yields the game!

Yet—Nobody sings of the farmer.

—H. F. Abell.

## A Thanksgiving Reunion.

George Baker had not spent a Thanksgiving at home for three years. It was not because he lived too far away to come or was too busy to leave his business, or anything of that kind; but it was because that season brought bitter memories to his mind, and the family reunion, which had never yet failed to call together all his brothers and sisters, with their families, was too painful a reminder of the desolation of his fireside, which had been the happiest of them all. Not even his own brothers and sisters knew exactly what had caused the separation of George and his beautiful young wife, Olive, three years ago. It was to his mother only that he had told his trouble, and she had kept it well, so far.

I had been in the West those years and but a whisper of the separation had come to my ears, though I had always been George's favorite cousin, and even his confidante until after his marriage. That event, in connection with several others, had broken into our intimacy and it was now only occasionally that I heard from him, and he had never mentioned his trouble. I had never seen his wife, and my sympathies were, naturally, on his side. This year I had accepted his mother's invitation to spend Thanksgiving week with them and, while I had thought considerable about the affair during the preceding days, I tried not to show any surprise when I did not see him at his home, and following their cue, ignored his absence.

Just before retiring I went into my aunt's room for a quiet talk with her about old times and old friends. We sat in the dark with only the flame from the grate shedding a glimmering light on nearby objects, and easting long shadows in the corners. We talked of everything and everybody—but George—and then a silence fell upon us, broken by her. She reached out and touched my hand lightly, and, with a little catch in her voice, said:

"Fanny, I want to tell you about George and Olive. If only he were here to-morrow I would be perfectly happy, but he won't be, and he never will come any more—unless—" she hesitated a little, "unless somehow he can get her back. He told me all about it the day after it happened, but from that time to this he has not said a word. I don't know whether or not he has learned who the man was that caused the trouble, or anything about it, but I am sure he loves her still and is worrying himself old about it. At first I was angry with her for spoiling his happiness, but I have been thinking lately that there must have been some mistake, and that she could have ex-

plained everything, if he had asked her."

Of course I did not understand a word of what she was talking about, but I let her have her own way in telling the story, since I knew that to one of her reticent disposition this was not easy for her to do, and I had a dim consciousness that she thought I might be able to help, else she would not have told me.

In a low voice she repeated the old, old story of suspicion, covert watching, and finally a chain of circumstantial evidence that seemed black enough, followed by bitter accusations of unfaithfulness heaped upon the unsuspecting wife's head. She was too proud, and too terribly hurt to even ask for an explanation of the accusations. Bewildered at first by his angry words, she allowed him to go on without stopping him, receiving it all in self-condemning silence. But when he brutally called her a faithless wife she was aroused. Waiting until he was quite through with his upbraidings, she then calmly faced him, and, looking steadily into his flaming eyes with a terrible coldness that froze the fire in them, with a voice that he had never heard her use before, she said:

"I have been trying to think what you meant by all this storm. Perhaps I comprehend now. At any rate a 'faithless wife' and a brutal husband is certainly a bad combination." Oh, the withering scorn in her voice! "It would be useless, foolish to try to deny what you have so evidently made up your mind I am guilty of, and in case you should ever find out the truth it will be equally useless for you to dream that I could forgive, though he came in sackcloth and ashes, a man who has so insulted me and my womanhood. I think," she continued, with that remarkable coldness still in her voice, "that our holiday plans will need a little changing; and if I hurry I can catch the train to Hillsdale."

She looked at her watch as she spoke, then deliberately detached it from the chain and laid it upon the table. It was a present from her husband on her first birthday after their marriage and had in its lid his own portrait. Without another word she then left the room. To the man she left standing at the window this course seemed but added proof of her guilt, and he believed that she had formulated, deliberately, a plan of action, should she be discovered. How could he know that it was the inspiration of the moment which had prompted her to this course?

That was the last time he had seen her, for he made no effort whatever to stay her. He knew that she would never go home, for her parents had objected to their marriage at first, insisting that she who was college bred, had traveled extensively and was used to the most refined and intellectual companions, could not possibly be happy with a business man, whose education had been secured in a little country schoolhouse, who never stepped foot off the soil of his native country, and whose associations were among the "uncouth westerners." They wanted her to marry a college president at least.

Assisted by Olive's entreaties, he had finally won their consent, and then they had been so happy in the years that followed that her people were completely satisfied, and now—he groaned aloud as he thought of the awful ending of it all. Something of these same thoughts passed through Olive's mind as she packed her belongings, and she knew she could never go home, not that they would be unkind to her, but because they would share the burden with her. So Olive went to her maiden aunt in Hillsdale, whom she knew would not ask or expect her to make explanations, but who would give her entire sympathy. This aunt had almost worshipped Olive and believed of her that "the queen could do no wrong."

Three years had passed before I heard the story, but, knowing George as I did, and, having caught him one day looking at a picture which I was sure was Olive's, I made up my mind that somehow I would see her

and learn if she was as evidently pining for him as he was for her, though in my own mind I was sure that they were two foolish mortals, allowing their pride to eat away their hearts.

I had been intending to take up my residence in Boston for a time. This I did the following spring, and during the summer made many little trips to a little village in Vermont called Hillsdale. In fact, I had the good fortune to succeed in installing myself in the home of Olive's aunt as a summer boarder, and spent six weeks of July and August. I found Olive to be all that she had been painted in a letter received from George shortly after his marriage, when too intoxicated with her charms to use anything but the most extravagant language. She was beautiful in face, and in heart and soul, as I learned upon further acquaintance. Of course the stranger who had never known her and to whom it was not deemed necessary to make explanations would surmise her to be a widow. I was supposed to be laboring under that impression, at least, and under cover of this could put out many feelers without arousing suspicion, but had learned nothing tangible that could be used in bringing about a reconciliation between these two.

It was a few days before Thanksgiving that I went to Hillsdale again, feeling somewhat disappointed, for I had made a half vow that I would bring these two together somehow before Thanksgiving. That evening I went into Olive's room just after supper. Her door was standing open, and I glanced through before telling her I was coming in. She was gazing at a photograph which she hastily concealed as I entered, and I imagined that she looked a little guilty at being caught. It was George's picture, and I resolved to make a bold remark, and said interrogatively:

"A picture of your husband? You must have loved him very much."

I was prepared for almost anything but what happened. She turned quickly and put out the light, then slipped down on the floor beside me, with a sob, and told me the whole story. As she finished she exclaimed passionately:

"And I love him and have loved him every minute of the time, even when I was leaving him. But he cannot care for me or he would come. He must have found out long ago that he was deceived and that I was innocent."

I did not dare to say much, but comforted her the best I could.

"I know it is foolish of me, but it is at Thanksgiving that it is hardest, and I can't help but hope he will come and am disappointed when he doesn't. It was on Thanksgiving day that my parents gave their consent to our marriage and he used to call me his 'special blessing.'"

The next day when the mail came I made a plea of a special summons and went to Boston, sending a telegram to George to come to me there. He came, arriving Wednesday night. I knew he would be impatient to know the cause of this unusual proceeding on my part, and I was quite as anxious to tell him and get him started to Hillsdale. We passed the merest greetings when, without a preliminary word, I said:

"Do you know that to-morrow is Thanksgiving day?"

A painful look crossed his face. "Yes," he responded, quietly.

"Suppose I should tell you that Olive is expecting you to-morrow and will be disappointed if you do not come."

He jumped to his feet and grasped my arm roughly in his intense feeling. "Then why has she not sent some word. If she cared for me still, she knows that I would come."

"And she says that if you had not ceased to love her you would have come long ago, without waiting to be sent for—as soon as you learned of her innocence."

He turned away. "I know she is innocent only because my love for her makes me sure that she could not be guilty of what I accused her."

"Then you have never learned—" I gasped.

"I have learned nothing," he in-

terrupted. "I have not tried to learn anything."

"Then I would advise you to go to her and learn something," I replied, trying to speak lightly, for I felt something choking me when I saw how great love really could be. I could not bear to think of Olive waiting to know that love like this was hers, so I put his hat in his hand and said:

"Go. Go to her. If you hurry you can catch the night train to Hillsdale. I tell you I heard it from her own lips that she loves you and is waiting for you, and I do so want both of you to be happy again." And then for fear I should break down—a thing I made it a point never to do before any one—I rushed into my room and only waited to hear the door slam before I dropped on my knees and thanked the Lord that I had been permitted to help bring about this Thanksgiving reunion.—Elenora E. Reber in *The Prairie Farmer*.

## Art of Sandwich Making.

There is a sandwich woman in town—a very different person from the sandwich man. It is not allowable to tell anything about her personality, but if one were to guess, the guess would be that she is ten-tenths gentlewoman, always wears pretty clothes, and looks altogether nice, has the "knack" of making good things in the kitchen, can make as good a Welsh rabbit as ever was eaten, and, of course, she makes sandwiches.

This manufacturing of sandwiches, in fact, has developed into a regular business. She makes them for teas, card parties and receptions, with some special kinds for stag parties, intended to be eaten with the Welsh rabbit, and there is one boy in town who swears by her, for she makes the sandwiches for his luncheon every day, and never two days alike.

This particular woman had the "knack" of making sandwiches, and it occurred to her that she might turn it to profitable account. She took some sandwiches to the Woman's Exchange. Every one sold the first day, and more would have sold if they had been there. She made more and more, and more were eaten. In the meantime her sandwich vocabulary began to grow, and now she makes over twenty different kinds. She put up a sign saying that she would provide sandwiches for receptions, teas, card and children's parties, and the orders began to come in.

The chicken sandwich is one of the most popular. It is a cream sandwich, and very delicate and nice. The lettuce sandwiches, with mayonnaise dressing, and the cress sandwich, with French dressing, are popular for afternoon affairs. The tongue and ham sandwiches are always more or less popular. The other day when a number of young men ordered a luncheon put up they had chicken and lettuce sandwiches, but they also prepared for a hungry man's appetite, and there were roast beef sandwiches as well. For stag parties or studio good times of different kinds there are still other sandwiches.

For these latter festivities there is pretty sure to be a Welsh rabbit, and for the Welsh rabbit there must be something tasty in the way of a sandwich. Sometimes it is caviare and sometimes—and this is one of the best—it is a nice little fried ham sandwich, the ham cut thin and crisped delicately. The white-bread sandwich is one of the most popular for general use, but there is the graham-bread sandwich. That is good with fried ham, and sometimes there is one side of white and the other of brown bread.

The little Boston brown-bread sandwiches are always cut round, and suggest the brown loaf. For the card parties the sandwiches are cut into diamonds and hearts and spades, which always delight the card players.

The latest is the golf sandwich, which was named only quite recently. That is an ideal sandwich. Delicate, delicious, and appetizing, and a good sandwich for summer, for there is no meat in it. Cream cheese, olives chopped and green things enter into its composition. All are worked to-



gether into a paste, and in the result there is no taste of anything in particular, but a general taste of all the good things combined.

And the bread for the sandwiches! Of course it would be natural to suppose that any one who could would make the bread for them. But that is the difference between these latter days and days gone by. It is easier to have the bread made at the baker's, and it saves both time and strength, which are valuable. The baker makes a special loaf of a special bread which will cut, with the crusts off, a generous sandwich.

"And every one is anxious to know what I do with those bread crusts," says the woman who makes the sandwiches. "Well, I do simply nothing at all with them. That is where I do not follow the recipe books which tell how to use the odds and ends of everything. The crusts are delicious, too, and our ashman considers us wicked and extravagant. I suppose he wonders how it is that we eat so much bread and never crust. We never have such a thing as a bread pudding, though we may sometimes use a few of the crusts for breadcrumbs, which we keep always on hand, but all the rest are thrown away. A boy who lived a little out of town came to get the crusts at one time to feed his chickens, but that did not last long. There is really nothing to do with them. One can buy crusts ready put up in the shop for breeding purposes, but it would cost me too much to try to put them up to sell.

"One thing that I have noticed in making sandwiches is that there are many people taking their luncheons on the train. If they are going to be in the ears over the noon hour they prefer to take a luncheon than get it on the train, and they take sandwiches and home-made cakes."—N. Y. Exchange.

#### Satisfying His Curiosity.

A passenger entered a railway carriage in Australia in which was seated a particularly aggressive commercial traveler, and placed in the rack opposite a small wooden box pierced with holes. In the conversation which followed, the commercial traveler gave several hints that he would like to know what was in the box, but without avail. At last his curiosity got the better of him.

"I say, old man," he asked, "what have you in the box?"

"A mongoose," was the reply.

A series of diplomatic remarks followed, aimed at getting the reason for carrying a mongoose, but as no explanation was offered, the commercial traveler had to say plump out, "What are you going to do with that mongoose?"

The answer he got was, "I'm going to see a friend who has been drinking very heavily of late—so heavily, in fact, that he has developed delirium tremens. You may be aware that people so suffering are inclined to see snakes; and you may also be aware that there is nothing on earth so deadly to snakes as a mongoose." He sat back, evidently satisfied that he had given his questioner a full and complete explanation.

"But—but, I say," said the commercial traveler, "those snakes are imaginary."

"So is my mongoose," returned the person interrogated.—Sporting Times.

#### Humorous.

"Come here, my son; your hair is wet,

While all your clothes are dry."

The anxious mother held him up—

"Now tell me the reason why."

"I—fell—into—the—swimming—hole."

The mother 'gan to scoff,

"How did you keep your clothes so dry?"

"Why, ma, I took them off."

—Chicago Record-Herald.

A teacher was explaining to a little girl how the trees developed their foliage in the spring time. "Oh, yes," said the little miss, "I understand; they keep their summer clothes in their trunks."—Credit Lost.

#### Morning and Evening.

Buckwheat batter

In the can.

Sausage frying

In the pan.

Frost is here.

October's come.

Bucks and sausage!

Yummy-yum!

Keeping house—just Jen and me.

Like a morning glory, she.

Day is over.

Backlog glows.

Cross the fields the

North wind blows.

Chestnuts ripe and

Frost has come.

Nuts and cider!

Yummy-yum!

Jen and me! Just Jen and me!

Like a star of evening, she.

N. Y. Sun.

#### Hints to Housekeepers.

Hot salted vinegar will restore copper and zinc to their first lustre.

A fern dish stocked with native ferns and mosses is a delight through the winter because of its vacation-day reminders.

A little sweet oil applied to the bronzes after they are dusted, followed by brisk rubbing with a chamois skin, will bring out their rich tones.

Butter moulds and the little wooden paddles used for making butter balls should be scrubbed with a brush, rinsed thoroughly and kept in the refrigerator when not in use.

Vary the breakfast omelet by spreading on it before it is turned minced ham or olives, cooked asparagus that has been run through a sieve, tart jelly or other relishes as they suggest themselves.

A pinch of salt added at the last moment to a pot of brewing tea or coffee is said to assist materially in bringing out the aroma. A pinch of salt added to a dish that has been made too sweet by mistake will take away the oversweetness, as, conversely, a little sugar often subdues a salty taste.

Tarragon vinegar may be inexpensively made at home with cider or white wine vinegar and dried tarragon leaves bought of the druggists. Allow half a pint of leaves to a quart of vinegar and allow the leaves to steep for about two weeks. Strain carefully, using a flannel jelly bag. Bottle and keep in a cool place.

There is nothing better for cleaning woolen garments, especially if greasy-stained, than soap bark, which is sold in small packages at the druggists. Put a handful of the bark strips into a basin and cover with boiling water. Let it steep for ten minutes, when it will be ready for use. Scrub the garment with the soapy water and sponge off with clean water.

#### Domestic Hints.

**EGG CROQUETTES.**—Chop very fine a dozen or so hard-boiled eggs, add a little chopped parsley, and enough cream to moisten the mixture so that it can be moulded easily. Shape into croquettes, roll in beaten egg, then in crumbs and drop in hot fat.

**FRIED CUCUMBERS.**—Peel the cucumbers and cut lengthwise in rather thick slices. Plunge into ice water, having in it some salt and a few drops of vinegar. Lift out after having been in the water for fifteen minutes or so, dip in beaten egg, then in crumbs and drop into boiling fat.

**RICE DROP CAKES.**—Have a pint of cold steamed rice, add to it a teaspoonful of saleratus, three tablespoonfuls of flour and two of melted butter. Add then enough milk to form a stiff paste. Beat four eggs well, yolks and whites separately, add the yolks, then the whites, and drop from a spoon into boiling fat. To many, flavoring of nutmeg or of cinnamon is acceptable in these drop cakes.

ADVERTISER owns fully equipped poultry plant, who understands the business with \$200 to invest. S. C. White Leghorns' eggs \$1.00 per setting, \$6.00 per 100. Stock for sale. Address G. S. BOLCE, Natividad, Monterey county, Cal.

WANTED.—One or more carloads of Cat Tails, (Flag.) For particulars, call or address Brown & Abraham, 330 Market St., Room 510, San Francisco.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

#### PRACTICAL ORCHARDIST

would like position as Foreman; 15 years' experience in growing and curing deciduous fruits. Best of references.

C. E. BURNS, Fremont St., San Jose.



#### A Position or Your Money Back.

A business education pays when you can turn it into cash.

We want to help you make it pay. With over 500 positions to fill a year, and with the income from 400 students behind us, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

R. L. DURHAM,

305 Larkin St., San Francisco, Cal.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

#### LOS CATOS—THE GEM CITY.

Property for sale in the town and its suburbs; the center of the fruit belt, beautiful for location, climate unexcelled.

6½ acres ¼ mile from depot, on Saratoga road; a snap. Price \$4500  
13 acres 1 mile out; in orchard; comfortable residence. \$3500  
1 acre close in; elegant improvements; large house. \$4500  
26 acres, summer resort, 4 miles out, part in orchard; a bargain; near station. \$3500  
Extra bargain, right in town, 12-room house, well kept grounds. \$6500  
In heart of town, beautiful residence, well kept grounds. \$3000  
5-acre tract close in, with orchard. \$2000  
One same size adjoining. \$1800  
5-acre full bearing orchard, fine improvements, 2½ miles out, large house, only \$3000

JOHN F. BYXBEE, Pa'o Alto Santa Clara County, Cal.

## GLENN RANCH,

Glenn County, - - California.

## FOR SALE

## IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips. The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eihe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**

## Checkmate Frost!

## Save Fruits!

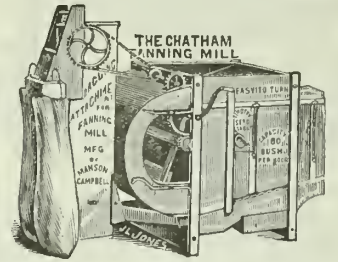
#### USE

### Griffiths-Munson Briquettes.

Burn on ground three to four hours. No kindling required. Twenty-five fires per acre. Two to three briquettes to fire, according to exposure. If temperature moderates, can be extinguished and used again until consumed. Water does not affect them. Strong heat in three minutes.

For further particulars, apply to

**GRIFFITHS-MUNSON BRIQUETTE CO.**  
128 HELLMAN BLOCK, LOS ANGELES, CAL.



The above cut represents the "Famous" Chatham Fanning Mill with Sacker Attached, which won the First Prize at the State Fair, Sacramento, Cal., this fall.

## Clean Your Grain for Seed.

Foul seeds and cracked grain require just as much time to put into the ground and just as much room in the ground.

This machine will clean any kind of grain, taking out all foul seeds, separating oats from wheat, cleaning and grading barley, cleaning alfalfa. We have special screens for cleaning all sizes of beans. Over one thousand of these Fanning Mills now in use in California.

Send for one of our beautiful circulars, telling you how to make "Dollars Out of Wind."

We pay all freight.

**GEO. W. FOOTT,**

General Agent, VENTURA, CAL.

## SOMETHING NEW UNDER THE SUN.



### A Cheap, Effectual and Permanent Method of Propping Trees.

Cheaper than driving staples in the limb, and no possible damage to tree.

Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

**HOYT'S TREE SUPPORT CO.**  
WATSONVILLE, CAL.

Or, **R. M. TEAGUE,** San Dimas, Cal.

Distributor for Southern California.

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.**

113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. **A. VAN DER NAILLEN, Pres't.**  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, November 18, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday.....	77 1/2 @ 76 1/4	77 1/2 @ 76 1/4
Thursday.....	76 1/2 @ 75 1/2	76 1/2 @ 75 1/2
Friday.....	75 1/2 @ 76 1/4	76 1/2 @ 77
Saturday.....	77 1/2 @ 76 1/2	77 1/2 @ 76 1/2
Monday.....	77 1/2 @ 76 1/2	77 1/2 @ 76 1/2
Tuesday.....	76 1/2 @ 77 1/2	76 1/2 @ 77 1/2

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday.....	43 1/2 @ 42	42 1/2 @ 41 1/2
Thursday.....	42 1/2 @ 41 1/2	42 @ 41 1/2
Friday.....	41 1/2 @ 42 1/2	41 @ 42
Saturday.....	42 1/2 @ 42 1/2	42 @ 41 1/2
Monday.....	42 1/2 @ 41 1/2	41 1/2 @ 41 1/2
Tuesday.....	41 @ 41 1/2	41 1/2 @ 41 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday.....	\$1 35 1/2 @ 1 35 1/4	\$1 35 1/2 @ 1 35 1/4
Friday.....	1 37 @ 1 37 1/2	1 35 1/4 @ 1 36
Saturday.....	1 36 1/2 @ 1 37	1 35 @ 1 35 1/4
Monday.....	1 36 1/2 @ 1 35 1/2	1 35 1/2 @ 1 35 1/2
Tuesday.....	1 36 1/2 @ 1 35 1/2	1 36 @ 1 34 1/2
Wednesday.....	1 35 1/2 @ 1 35 1/4	1 34 @ 1 34 1/2

### Wheat.

The spot market for this cereal has shown much the same dull and monotonous condition since last review as for some weeks preceding. While there is not much wheat offering, there is more than custom can be found for at the views generally entertained by holders. There is an entire absence of speculative purchasing of actual wheat in the open market, and not much doing in options and futures, where, in the majority of instances, no grain is used in the transactions, the transfers being of the paper contracts, and the coin representing the difference between the buying and selling prices. Most of those who sell May and December wheat, sell contracts they have previously purchased or else "short" the market; that is, they sell wheat they do not possess, or paper representing the wheat, and take chances on filling or buying in at a later date. If the market declines, they win; if it advances, they lose. Some shippers sell May and December wheat against warehoused grain, thus taking no chances. If the market declines, they buy in their contracts at a profit, otherwise they hold the wheat for delivery when the contract matures. But it is the rare exception where actual wheat changes hands to any noteworthy extent in the speculative trading in monthly options. There is very little wheat being taken for export, and local millers are buying only as necessity compels them to, especially of other than most select. High grade milling is difficult to obtain in noteworthy quantity and is commanding more than the usual premium over prices quotable for ordinary shipping grades.

California Milling.....	\$1 42 1/2 @ 1 52 1/4
Cal. No. 1 shipping, alongside.....	1 37 1/2 @ 1 40
Oregon Club.....	1 37 1/2 @ 1 42 1/4

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.37 1/2 @ 1.35 1/2.  
May, 1904, delivery, \$1.36 @ 1.34.  
Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.35 1/2 @ 1.35 1/2; May, 1904, at \$1.34 @ 1.32 1/2.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations.....	6s 5 1/2 d @ 6s 6 d	-s-d @ -s-d
Freight rates.....	12 1/2 @ 15s	11 1/2 @ 12 1/2 s
Local market.....	\$1 32 1/2 @ 1 35	\$1 37 1/2 @ 1 40

### Flour.

Stocks are not heavy, neither is the demand particularly active, but the movement is of fair average proportions, all things considered. Current values are being tolerably well maintained. Market would be showing decided firmness, but for the fact that some flour is being landed here from Oregon and Washington and other outside sections at lower figures than same grades can be turned out at present by local mills. Most of this outside flour is absorbed by the large bakers.

Superfine, lower grades.....	\$3 00 @ 3 25
Superfine, good to choice.....	3 35 @ 3 50
Country grades, extras.....	4 00 @ 4 25
Choice and extra choice.....	4 25 @ 4 50
Fancy brands, jobbing.....	4 50 @ 4 75
Oregon, Bakers' extra.....	3 50 @ 4 00
Washington, Bakers' extra.....	3 50 @ 4 15

### Barley.

While the rainy weather of the past week has imparted an easier tone to the barley market, there have been no radical declines in actual values of spot stock. In the speculative market there has been some hammering down of prices, more particularly of May option, which touched \$1.08 1/2 during the rainstorm of Saturday last, as against \$1.12 1/2 several days previous, being a decline of over \$100 per 100-ton contract. But this is a gambling proposition, based on coming crop

prospects, and does not establish the price of actual barley for next May or any other time. Spot offerings are not heavy and there are no evidences of any great quantities now being held in the interior. Indications are that stocks of this cereal will be quite light at the end of the season, and should they prove otherwise, it will certainly not be for lack of demand in the meantime. Speculative market closed weak, December closing at \$1.09 1/2 and May selling at \$1.07 1/2.

Feed, No. 1 to choice.....	\$1 13 1/2 @ 1 16 1/4
Feed, fair to good.....	1 12 1/2 @ 1 13 1/2
Brewing, No. 1 to choice.....	1 17 1/2 @ 1 22 1/2
Chevalier, No. 1 to choice.....	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair.....	1 12 1/2 @ 1 32 1/2

### Oats.

Market has not shown much activity the current week, but values were tolerably well maintained at previously quoted range. Oats are at present the cheapest feed cereal on the list, and that materially lower prices will be established in the near future is not probable. Desirable seed qualities are commanding in a small way higher figures than are warranted as wholesale quotations.

White oats, fancy feed.....	\$1 32 1/2 @ 1 35
White, good to choice.....	1 25 @ 1 30
White, poor to fair.....	1 20 @ 1 22 1/2
Milling.....	1 27 1/2 @ 1 32 1/2
Surprise, good to choice.....	1 25 @ 1 35
Black Russian feed.....	1 20 @ 1 35
Black for seed.....	1 50 @ 1 65
Red, fair to choice.....	1 20 @ 1 35

### Corn.

Market is lightly stocked with all descriptions of both California and Eastern product. Not much is required, however, to satisfy the demand at full current figures, buyers operating in the majority of instances only against most immediate and pressing needs. There is less Small Yellow offering than any other variety, and tolerably still prices for same are being realized, mainly for chicken feed.

Large White, good to choice.....	\$1 32 1/2 @ 1 37 1/2
Large Yellow.....	1 32 1/2 @ 1 37 1/2
Eastern, in bulk.....	1 22 1/2 @ 1 27 1/2

### Rye.

There is not much coming forward, neither is the demand brisk at current rates. Values are ruling steady.

Good to choice, new.....	\$1 25 @ 1 30
--------------------------	---------------

### Buckwheat.

Spot supplies are of moderate proportions, mostly in the hands of millers. Quotable values are without change.

Good to choice.....	\$1 90 @ 2 25
---------------------	---------------

### Beans.

While the market is not displaying any special activity, there is more steadiness as regards values, and to this extent there is improved condition. Local dealers are fairly well stocked, and shipping orders are not heavy, but there is not much selling pressure. To buy freely, full current quotations or more would have to be paid. In the line of white beans, Large Whites are being most freely offered. Bayos make the largest display in colored varieties. Limas are being offered in considerable quantity from southern coast points of production.

Pea, fair to good, 100 lbs.....	\$2 75 @ 3 00
Small White, good to choice.....	2 90 @ 3 10
Large White.....	2 25 @ 2 50
Pinks.....	2 25 @ 2 40
Bayos, good to choice.....	2 25 @ 2 40
Red Kidneys.....	4 00 @ 4 25
Reds.....	2 75 @ 3 00
Limas, good to choice.....	2 80 @ 2 90
Black-eye Beans.....	2 00 @ 2 25
Garbanzos, large.....	2 00 @ 2 25
Garbanzos, Small.....	1 25 @ 1 50

### Dried Peas.

Market is not showing much activity, holders generally contending for stiffer prices than millers and dealers are willing to pay. Quotations are based on latest transfers of noteworthy magnitude. Sales at materially higher figures could not be effected at this date.

Green Peas, California.....	2 00 @ 2 30
Niles Peas.....	2 30 @ 2 50

### Hops.

Business in this center is of a light order at present, so far as wholesale transfers from first hands are concerned. While the market for desirable qualities is rather firm in tone, the firmness is more in consequence of light pressure to realize than of any active demand at extreme current rates. To sell freely, prices would have to be shaded, and to buy freely top figures would have to be paid. Recent mail advices from New York review the situation as follows: "The market is still very irregular, with a wide range of both quality and prices. We seldom have so large a proportion of inferior and medium grades and these are having an uncertain demand. Sales are reported at 20 @ 24c for common to good Pacific coast and some of the lower grades of State hops are selling at 23 @ 25c. The feeling has become a little firmer on prime and choice qualities. Shippers have paid on this market 30 @ 32c for the best grade of States and up to 28c for fine Pacifics. There seems to be a

pretty good demand from exporters, and in addition to the stock taken here they have recently purchased upward of 3000 bales in the interior of this State at from 30 @ 30 1/2c, possibly up to 31c. It is this foreign demand that gives the present firmness. Brewers are showing fair interest but are not large buyers. Latest cable and mail advices indicate fairly good business in the English markets, with firm but unchanged prices."

California, good to choice, 1903 crop.....	20 @ 23
--	---------

### Wool.

Arrivals are light and business in the local market is of a slow order. There is no noteworthy competition among buyers, making it appear as though most of the operators were working in unison, possibly trying to hedge on wools which they think they paid too much for in the spring. In quotations there are no special changes to record, but values are not very well defined at this date. Eastern markets are reported quiet but fairly steady.

### FALL.

Humboldt and Mendocino.....	11 @ 13
Mountain, free.....	9 @ 11
San Joaquin Plains.....	7 @ 10

### Hay and Straw.

Receipts of hay were comparatively light the past week and were largely alfalfa, for which description the market was not especially favorable to sellers. High-grade horse hay is being offered sparingly, and with an active demand would rule higher, but inquiry just now is not brisk, and seldom is at this time of year. Stocks of hay in the region tributary to San Francisco are estimated at 97,000 tons, being about 1000 tons less than a year ago.

Wheat, good to choice.....	\$13 50 @ 16 50
Wheat and Oat.....	13 50 @ 15 50
Oat, fair to choice.....	11 00 @ 14 50
Barley.....	10 00 @ 13 00
Clover.....	10 50 @ 11 50
Alfalfa.....	9 50 @ 11 00
Stock hay.....	9 00 @ 9 50
Compressed.....	13 50 @ 16 50
Straw, per bale.....	55 @ 65

### Millstuffs.

Bran was in good supply and market inclined in favor of buyer, but as stocks were mainly in few hands and not forced to sale, there were no serious breaks in quotable values. Middlings were not in heavy stock, and brought fully as firm figures as lately current. Rolled Barley and Milled Corn were held about as last quoted, with demand fair.

Bran, per ton.....	\$20 00 @ 21 00
Middlings.....	24 00 @ 27 50
Shorts, Oregon.....	21 00 @ 22 50
Barley, Rolled.....	24 00 @ 25 00
Cornmeal.....	30 00 @ 31 00
Cracked Corn.....	30 50 @ 31 50

### Seeds.

Market for Alfalfa continues firm under light offerings, but demand is not brisk at full figures asked. Mustard is in slightly better supply than for some time past, but values are ruling steady on desirable qualities, there being no undue pressure to realize. Business in Bird Seeds is within same range of values previously quoted; market is not burdened with any heavy stocks in this line.

	Per ctl.
Alfalfa, Cal., good to choice.....	\$14 00 @ 15 00
Alfalfa, Utah.....	15 00 @ 16 00
Flax.....	2 00 @ 2 50
Mustard, Yellow.....	2 75 @ 3 00
Mustard, Trieste.....	3 00 @ 3 25
	Per lb.
Canary.....	5 @ 5 1/2
Rape.....	1 1/2 @ 2 1/4
Hemp.....	3 @ 3 1/2
Timothy.....	6 @ 6 1/2

### Honey.

There are moderate supplies in the local market, mostly of amber grades, and more of this sort than immediate custom can be found for at full current figures. Values are fairly steady, however, for amber honey, buyers finding it difficult to purchase at noteworthy concessions. Fancy white is in light stock, both Comb and Extracted, and for this description the market presents a firm tone, some holders contending for an advance on utmost figures warranted as regular quotations.

Extracted, White Liquid.....	5 1/2 @ 6
Extracted, Light Amber.....	4 1/2 @ 5
Extracted, Amber.....	4 @ 4 1/2
Extracted, Dark Amber.....	3 1/2 @ 4
White Comb, 1-frames.....	13 @ 14
Amber Comb.....	9 @ 11

### Beeswax.

Not much coming forward from any quarter. There is no lack of demand for good to choice, values for which grades are being well maintained at the quoted range.

Good to choice, light per lb.....	27 1/2 @ 29
Dark.....	25 @ 26

### Live Stock and Meats.

Beef market ruled firm for choice and steady for ordinary qualities, demand being tolerably active. Veal was in rather light receipt, and desirable sizes met with prompt sale at full figures. The improved prices last quoted on Mutton are being well maintained, with market particularly firm for choice Wethers. Market for

Lamb remains quotably as last noted, large sizes being most in evidence and least sought after. Hog market has presented a rather weak tone, in sympathy with the East, but that prices will decline materially from present levels is not probable, as decreased receipts are looked for in the near future.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net per lb.....	6 1/2 @ 7
Beef, 2nd quality.....	5 1/2 @ 6
Beef, 3rd quality.....	4 @ 5
Mutton—ewes, 7 1/2 @ 8c; wethers.....	8 @ 8 1/2
Hogs, hard grain, 140 to 200 lbs.....	5 1/2 @ 5 1/2
Hogs, large, hard, over 200 pounds.....	5 @ 5 1/2
Hogs, small, fat.....	5 @ 5 1/2
Veal, small, per lb.....	8 1/2 @ 9 1/2
Lamb, Spring, per lb.....	9 @ 10

### Hides, Skins and Tallow.

The reduced quotations last noted on Hides continued in force, market being rather quiet. Pelts are also moving slowly and market is not showing any special firmness. There is a moderate demand for Tallow and values are ruling steady.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.....	9 @ 8	8 @ 7
Medium Steers, 48 to 56 lbs.....	8 @ 7	7 @ 6
Light Steers, under 48 lbs.....	7 1/2 @ 6	6 1/2 @ 5
Heavy Cow Hides, over 50 lbs.....	8 @ 7	7 @ 6
Light Cow Hides, under 50 lbs.....	7 1/2 @ 6	6 1/2 @ 5
Stags.....	5 1/2 @ 4	4 1/2 @ 3
Wet Salted Kip.....	9 @ 8	8 @ 7
Wet Salted Veal.....	10 @ 9	9 @ 8
Wet Salted Calf.....	11 @ 10	10 @ 9
Dry Hides.....	15 @ 14	14 @ 13
Dry Kip and Veal, 11 to 16 lbs.....	13 @ 12	12 @ 11
Dry Calf, under 4 lbs.....	16 @ 15	15 @ 14
Pelts, long wool, per skin.....	90 @ 80	80 @ 70
Pelts, medium, per skin.....	70 @ 60	60 @ 50
Pelts, short wool, per skin.....	40 @ 30	30 @ 20
Pelts, shearling, per skin.....	15 @ 15	15 @ 15
Horse Hides, salted, large prime, each.....	2 75	2 50
Horse Hides, salted, medium.....	2 50	2 00
Horse Hides, salted, small.....	2 00	1 75
Horse Hides, dry, large.....	1 75	1 50
Horse Hides, dry, medium.....	1 50	1 25
Horse Hides, dry, small.....	1 25	1 00
Tallow, good quality.....	4 1/2 @ 4 1/2	2 1/2 @ 3 1/2
Tallow, poorer grades.....	2 1/2 @ 3 1/2	

### Bags and Bagging.

Business doing in this line is of small volume at present. There is no scarcity of supplies of any description. Values throughout remain quotably as last noted.

Bean Bags.....	\$ 4 1/2 @ 5
Fruit Sacks, cotton.....	6 1/2 @ 6 1/2
Fruit Sacks, jute, as to quality.....	5 1/2 @ 7
Grain Bags, Calcutta, 22x36, spot.....	5 @ 5 1/4
Grain Bags, San Quentin, in lots of 2000.....	5 @ 5
Wool Sacks, 4 lb.....	32 @ 30
Wool Sacks, 3 1/2 lb.....	30 @ 28

### Poultry.

Demand has been good for poultry, especially for choice young stock, and market has inclined in favor of the selling interest most of the week under review. The leading feature of the market the coming week will be the demand for Dressed Turkeys on Thanksgiving account. Indications are that values on good to choice Dressed will be well maintained at about the range now quoted. The Turkey crop East is light and very few are expected from that quarter.

Turkeys, dressed, per lb.....	\$ 22 @ 21
Turkeys, young gobblers, per lb.....	18 @ 20
Turkeys, young hens per lb.....	18 @ 20
Turkeys, old, per lb.....	15 @ 17
Hens, California, per dozen.....	5 00 @ 6 00
Hens, large.....	6 50 @ 7 50
Roosters, old.....	5 00 @ 5 50
Roosters, young (full-grown).....	5 50 @ 6 50
Fryers.....	5 00 @ 5 50
Broilers, large.....	3 50 @ 4 50
Broilers, small to medium.....	3 00 @ 3 50
Ducks, old, per dozen.....	4 50 @ 5 50
Ducks, young, per dozen.....	5 50 @ 6 50
Geese, per pair.....	1 75 @ 2 00
Goslings, per pair.....	2 00 @ 2 25
Pigeons, old, per dozen.....	1 00 @ 1 25
Pigeons, young.....	2 00 @ 2 25

### Butter.

Fancy fresh continued in light receipt and was in fair request, commanding in a limited way tolerably fair figures. For ordinary grades of fresh the market was slow and lacking in firmness. The majority of consumers are now running on cold storage supplies. Increased receipts of fresh and better average qualities are looked for at an early day.

Creamery, extra, per lb.....	31 @ 32
Creamery, firsts.....	28 @ 30
Creamery, seconds.....	24 @ 25
Dairy, select.....	26 @ 27
Dairy, firsts.....	22 1/2 @ 25
Dairy, seconds.....	20 @ 21
Cold storage.....	23 @ 26
Mixed Store.....	18 @ 20

### Cheese.

Market is heavily stocked with regular flats and is weak, except for a little fancy new of favorite marks. There are no large supplies of small cheese of any sort, neither is the inquiry for them very brisk at prevailing values. Considerable Oregon cheese is being landed on the market and is showing a much wider range of quality than the California product, some being very ordinary.

California, fancy flat, new.....	13 @ 13 1/2
California, good to choice.....	11 1/2 @ 12 1/2
California, "Young Americas".....	13 1/2 @ 14
Eastern.....	14 @ 15 1/2



Eggs.

More firmness was developed in the egg market, owing to light receipts. Sales of fancy fresh were made up to 50c in a very small way, but this was not a quotable figure. Business in irregular sizes and mixed colors of fresh was mainly within range of 40@42½c. Owing to scarcity of fresh, cold storage eggs were in active request and prices for desirable stock averaged higher than at any previous date this season.

California, select, large, white and fresh. 47½@48  
California, select, irregular color & size. 40 @ 45  
California, good to choice store. 28 @ 32  
Eastern. 27½@32½

Vegetables.

The display of nearly all varieties of vegetables is light, and desirable qualities are, as a rule, meeting with a firm market. Choice Peas and String Beans commanded advanced figures. Summer Squash in prime condition brought better average prices than had been ruling for some weeks preceding. Cucumbers were in such light stock as to be hardly quotable in a regular way. Onions continued in light receipt and prices were again advanced, with market firm at the improved figures.

Beans, Lima, ½ lb. 3½@ 4½  
Beans, String, ½ lb. 2½@ 4  
Cabbage, choice garden, 100 lbs. 60 @ —  
Cucumbers, ½ large box. 75 @ 1 00  
Egg Plant, ½ box. 40 @ 65  
Garlic, ½ lb. 4 @ 5  
Onions, Australian Brown, ½ cental. 1 10 @ 1 25  
Onions, Yellow Danver, ½ ctl. 90 @ 1 10  
Okra, Green, ½ small box. 40 @ 65  
Peas, Sweet Garden, ½ lb. 3 @ 4  
Peppers, Green Chile, ½ box. 25 @ 60  
Peppers, Bell, ½ box. 40 @ 65  
Summer Squash, ½ large box. 1 00 @ 1 25  
Tomatoes, Bay, ½ large box. 50 @ 1 00

Potatoes.

Arrivals from Sacramento river section showed some decrease, but there were moderate stocks of Salinas potatoes and fair receipts from Oregon. Offerings proved ample for current requirements, and for other than choice to select the market was rather easy in tone. Demand was mainly on local account. Sweeters were in fairly liberal receipt and market inclined in favor of the consuming interest.

Sacramento River Burbanks. \$ 50 @ 80  
Salinas Burbanks, ½ cental. 1 10 @ 1 35  
Petaluma and Tomales Burbanks. 60 @ 90  
Oregon Burbanks. 75 @ 1 10  
Sweeters. 1 15 @ 1 25

Fresh Fruits.

The display of fresh fruits, other than citrus, is getting down to mid-winter proportions, both as regards variety and quantity. Apples are making a fairly good showing, and are beginning to receive more attention, with market firmer for most desirable qualities. Some fancy Spitzenberg are being held at an advance on extreme quotations. Apples of ordinary quality are selling at much the same low range as for some time past, but stocks are showing reduction. Winter Nels Pears of choice quality are in good request, considerable quantities going into cold storage on speculative account, and better prices are expected in the near future. Market for common cooking Pears is quiet and easy in tone. Persimmons were held about as last quoted, but demand for this fruit was not brisk. Pomegranates moved rather slowly. Owing to this fruit offering in packages of numerous sizes, sales were made at a wide range of prices; some choice in orange boxes were quotable up to \$3 per box, while common in small boxes were sold down to 50c, per box. Grapes were in materially reduced receipt and no heavy arrivals are looked for from this time forward. For all desirable qualities, more particularly fine shipping stock in crates, the market is showing more firmness. Strawberries and Raspberries were in such light receipt as to be hardly quotable. Cranberries were in good demand and market was firm for good to choice.

Apples, fancy, 4-tier box. \$ 1 25 @ 1 50  
Apples, good to choice, 50-box. 65 @ 1 00  
Apples, common to fair, 50-box. 20 @ 60  
Cranberries, Coos Bay, 50-box. 2 50 @ 3 00  
Cranberries, Eastern, ½ bbl. 10 50 @ 11 25  
Figs, ½ box. 50 @ 1 00  
Grapes, ½ crate. 60 @ 1 00  
Grapes, ½ small box. 40 @ 65  
Grapes, ½ large open box. 1 00 @ 1 75  
Pears, Winter Nels, ½ box. 75 @ 1 50  
Pears, other varieties, ½ box. 40 @ 75  
Persimmons, ½ box. 50 @ 1 00  
Pomegranates, ½ small box. 60 @ 90  
Raspberries, ½ chest. 5 00 @ 7 00  
Strawberries, Longworth, ½ chest. 6 00 @ 10 00  
Strawberries, Melinda, ½ chest. 4 00 @ 6 00

Dried Fruits.

The market for cured and evaporated fruits continues quiet, and is lacking in firmness for such kinds as are most in stock, namely Apples, Peaches and Prunes. The absence of firmness is more apparent, however, on selling pressure than where attempts are made to purchase, especially of holdings in second hands. Buyers in quest of dried fruit of any kind do not find the market nearly so weak as sellers. It is true, the immediate demand is not very active or urgent, but it is the rare exception where jobbers show any disposition to sell from stocks

in hand at figures corresponding with their bids on present offerings of the varieties above named. The market for Pears remains firm, particularly for choice to fancy, stocks of this description being exceedingly light. The market is almost bare of Nectarines, but they are not commanding any special advance, owing to the abundance and cheapness of Peaches. There are not many Figs now on market and they are almost wholly in second hands. Stocks of Pitted Plums are of slim proportions and include so few Reds that the latter are no longer quotable in a regular way. Further shipments of Prunes have been made the past week, mainly of the small sizes to Europe. One steamer took 188,000 pounds for Germany and 24,000 pounds for Holland. Prunes now offering are principally medium to large sizes, and these are not quotable over the 2½c bag basis. Owing to stocks of small Prunes having been lately greatly reduced, the market for this sort is tolerably firm at current values.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice. 4 @ 4½  
Apples, extra choice to fancy, 50-lb boxes. 5 @ 5½  
Apricots, Moorpark. 8 @ 10  
Apricots, Royal, good to choice, ½ lb. 6½@ 7½  
Apricots, Royal, fancy. 8 @ 8½  
Figs, 10-lb box, 1-lb cartons. 55 @ 75  
Nectarines, ½ lb. 4 @ 5  
Peaches, unpeeled, fair to good. 4½@ 5  
Peaches, unpeeled, choice. 5½@ 6  
Peaches, unpeeled, fancy. 6½@ 7  
Peaches, unpeeled, extra fancy. 7½@ 8  
Peaches, peeled. 10 @ 12½  
Pears, halves, fancy. 9 @ 10  
Pears, halves, choice. 7 @ 7½  
Pears, halves, fair to good. 6 @ 6½  
Plums, Black, pitted. 5 @ 6  
Plums, Yellow, pitted. 7½@ 8½  
Prunes, Silver, good to fancy. 5 @ 7  
Prunes, in bags, 4 sizes, 2½@2¾c; 40-50s, 4¾@5c; 50-60s, 3¾@4c; 60-70s, 3¼@3½c; 70-80s, 2¾@3c; 80-90s, 2¼@2½c; 90-100s, 1¾@2c; small, 1¼@1½c.

COMMON SUN-DRIED.

Apples, sliced. 3¼@ 3½  
Apples, quartered. 3¼@ 3½  
Figs, White, in bulk. 3 @ 4  
Figs, Black, in sacks, ½ lb. 3 @ 4

Raisins.

Nearly all the seeding plants have closed, having no more orders to fill. There are no layers or clusters now in the hands of the Association, not many of these having been turned out this year, and the supply proving hardly equal to the holiday requirements.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5½c. per lb.; 3-crown, 5½c. 4-crown, 6½c.; Seedless Muscatels, 4½c.; do floated, 4½c.; unbleached Sultanas, 4½c.; Thompson's Seedless, 5½c.  
Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5½c.; Valencia cured, 1½c. per lb.; Pacific do, 3½c.; Oriental do, 2½c. Seedless raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7½c.; 12-oz. packages, fancy, 6½c.; choice, 6½c.; in bulk, fancy, 7½c.; choice, 7½c.

Citrus Fruits.

New crop Navels are arriving in moderate quantity and some of the late receipts are fairly ripe. A small lot arrived from Arcadia, the first of the season from that section. For Navels showing good color \$4 per box was realized in a retail way, but most of the business in new oranges, Navels and Jaffas, was within range of \$2.50@3.50 per box. Old crop Valencias are now in light supply and choice are bringing comparatively good prices. Lemons were not in active request but were steadily held, especially choice to select, sales of which were made at \$2.50@3.00 per box. Limes were in reduced stock and prices were advanced 50c per case.

Oranges, Washington Navels, ½ box \$2 50 @ 3 75  
Oranges, Jaffa, ½ box. 2 50 @ 3 50  
Oranges, Valencias, ½ box. 3 00 @ 4 50  
Lemons, California, select, ½ box. 2 25 @ 3 50  
Lemons, California, good to choice. 1 50 @ 2 00  
Lemons, California, fair to good. 1 50 @ 1 50  
Grape Fruit, ½ box. 1 50 @ 3 00  
Limes, Mexican, ½ box. 4 50 @ 5 00

Nuts.

Almond market presents a healthy tone. Demand is good and prospects are very favorable for an early clean-up of stocks in the hands of jobbers. Walnuts are rapidly moving into consuming channels and market is firm. That stocks will be all absorbed by the retail trade before the end of the year is quite probable. Peanut market is without change, ruling quiet and steady.

California Almonds, shelled. 16 @ 20  
California Almonds, paper shell. 10 @ 12  
California Almonds, soft shell. 7 @ 8  
California Almonds, hard shell. 5 @ 6  
California Walnuts, soft shell. 13 @ 14  
California Walnuts, standard. 12 @ 13  
Chestnuts, California-Italian. 8 @ 12  
Peanuts, fair to prime. 4½@ 5½  
Peanuts, Eastern, hand-picked. 5½@ 6½

Wine.

The wholesale market for dry wines continues exceedingly quiet, and there is nothing to warrant anticipating any special change in the immediate future. Quotable values for dry wines of last season's vintage are unchanged, being 15@18c per gallon as to quality, but these figures are largely nominal at this date, in the absence of any noteworthy trading. Prices for this season's dry wines have yet to be fixed, but that they will be fully as good

as for last year's product is altogether probable. The steamer San Juan, sailing on the 14th inst., carried 68,662 gallons and 23 cases, including 59,949 gallons for New York. Receipts of wine at San Francisco last week aggregated 357,400 gallons, and for preceding week were 349,150 gallons.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sks. ....	104,675	2,326,068
Wheat, cts. ....	48,156	861,687
Barley, cts. ....	161,395	3,446,827
Oats, cts. ....	11,618	555,261
Corn, cts. ....	5,266	57,408
Rye, cts. ....	—	26,698
Beans, sks. ....	21,516	404,495
Potatoes, sks. ....	32,442	492,121
Onions, sks. ....	1,090	79,715
Hay, tons. ....	2,162	90,067
Wool, bales. ....	1,571	30,082
Hops, bales. ....	1,154	20,075

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, ¼ sk. ....	74,336	1,640,708
Wheat, cts. ....	48,521	387,066
Barley, cts. ....	177,291	2,812,320
Oats, cts. ....	538	10,652
Corn, cts. ....	573	7,108
Beans, sks. ....	1,559	16,173
Hay, bales. ....	2,418	98,598
Wool, lbs. ....	93,330	1,562,594
Hops, lbs. ....	2,917	296,845
Honey, cases. ....	418	3,026
Potatoes, pkgs. ....	4,041	37,566

The Irrigator.

The National Wood Pipe Company, of Los Angeles, Cal., has just completed the construction of eight lines of 48-inch diameter, and one line of 18-inch diameter wood stave pipes, to be used as pen stocks for the Columbia River Improvement Company, near Tacoma, Washington, the staves for this pipe being made from Washington Douglass fir. The same company is now building two parallel lines of 36-inch diameter redwood stave pipes, to be used as pen stocks for the American River Electric Company, near Placerville, California. All of the above lines are being built under the Wheeler patent for continuous stave pipe. This company has also just completed the installation of several miles of 4, 8 and 10-inch Woodward patent machine banded redwood water pipe, for the city of Oceanside, California. This pipe has been tested and accepted by the city of Oceanside. The pipe is made for a maximum pressure of 200 feet.

New Patents.

DEWEY, STRONG & Co.'s SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

- FOR THE WEEK ENDING NOVEMBER 3, 1903.
- 743,131.—REMOVING TIRES—H. Atwater, Vacaville, Cal.
- 743,372.—MEDICAL APPARATUS—E. Bachelet, Tacoma, Wash.
- 743,373.—MEDICAL APPARATUS—E. Bachelet, Tacoma, Wash.
- 742,958.—HOLDER FOR FOLDERS—J. L. Blair, San Jose, Cal.
- 743,055.—WATER MOTOR—L. E. Boqvist, Seattle, Wash.
- 742,965.—OIL BURNER—Brunner & Patterson, Hayward, Cal.
- 742,966.—QUARTZ MILL—J. Y. Byers, Descanso, Cal.
- 743,151.—BOOKKEEPING—E. E. Crandall, Los Angeles, Cal.
- 742,848.—SAWMILL—E. Dyer, Bandon, Or.
- 743,263.—STAMP AFFIXER—Fargue & Smith, S. F.
- 743,267.—OIL BURNER—J. Frodsham, Bouldin Isl. and Cal.
- 742,855.—HOSE SUPPORT—J. G. Garrett, S. F.
- 743,075.—BAND FOR CASINGS—I. B. Hammond, Portland, Or.
- 743,167.—LOADING APPARATUS—C. J. Ingard, Port Townsend, Wash.
- 743,002.—PISTOL—W. B. Knoble, Tacoma, Wash.
- 743,003.—BOLT CUTTER—N. Lamb, Yreka, Cal.
- 742,880.—CARPET CLEANING APPARATUS—A. Lotz, S. F.
- 742,889.—CONCENTRATOR—J. J. Montgomery, Santa Clara, Cal.
- 743,310.—CHEST PROTECTOR—S. A. Moulton, Campbell, Cal.
- 743,019.—PIPE WRENCH—D. Nelson, Reno, Nev.
- 743,096.—NUT WRENCH—H. D. Pelle, Ione, Cal.
- 742,916.—OIL BURNER—H. L. Sherwood, Oakland, Cal.
- 742,944.—CAR COUPLING—G. Wiley, Vallejo, Cal.

**FOR SALE,**  
**One French Draft Stallion,**  
Age, 7 years; color, bay; weight, 2200 lbs.  
**YOUNG FRENCH DRAFT MARES,**  
In foal, both registered and graded.  
ADDRESS BOX 345, VACAVILLE, CAL.  
**DEWEY, STRONG & CO.,**  
PATENT AGENTS, S. F., Cal. & Washington, D. C.

MALTHOID ROOFING



Made of felt, thoroughly saturated with P&B compound. Not impaired by varying temperatures. Does not evaporate, crack, expand or contract. A low priced roofing that cannot be equaled. Send for booklet.

The Paraffine Paint Co.

5 San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.

PATENTS

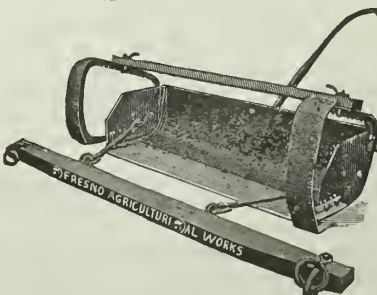
Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

DEWEY, STRONG & CO.

(ESTABLISHED 1880.)  
PATENT AGENTS,  
330 Market St., San Francisco, Cal.  
—AND—  
918 F St., Washington, D. C.

THE FRESNO SCRAPER.

3½-4-5 Foot.



FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.

WE ARE THE OLDEST  
SCALE MANUFACTURERS  
IN THE WEST.

(Incorporated in 1881.)  
We have REDUCED PRICES 25%, and have retained the STANDARD that has made our goods so popular. We ship on approval. We pay the freight. We do repairing. We do as we say—save you MONEY on steel and wood frame SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, Patent Specialties, Etc. Investigate.

UNION SCALE CO.,  
Dept 17, DES MOINES, IA.





### Do You Want to Know

how to fall in love with a cow? Do you care to know why a cow is worth more than a horse? If you do, you should have a copy of our valuable book.

### "Business Dairying."

It won't cost you a cent. We send it free. Ask for it.

You have read many times about the **TUBULAR SEPARATORS.**

Wouldn't you like to know all about them? It won't cost you anything to do it. Just write for free catalogue No. 131.

THE SHARPLES CO., P. M. SHARPLES,  
Chicago, Ills. West Chester, Pa.

## TRACK AND FARM.

### Lou Dillon and Her Great Achievement.

Marque, the well known writer for the Chicago Horse Review, describes Lou Dillon's mile in 1:58½ which has made her queen of the turf. Lou Dillon was bred by Mr. Green Thompson of Santa Rosa, and brings new honors to her native State. Marque's description is as follows:

Lou Dillon was to have tried against her record yesterday, but the day was cold and a high wind was blowing. All afternoon it was hoped that the wind would lull, but it did not, and the crowd accepted the announcement, made near evening, that a postponement was necessary, graciously, even happily, for the love of the little mare is so great that everyone felt relief when they heard that the task would not be asked of her under such adverse conditions. Millard Sanders brought her out and worked her a mile in 2:16½, with the last quarter in 0:30, and last eighth in 13½ seconds, and then took her back to her box.

To-day was another chilly day, with the wind blowing in gusts. At times it was very strong; and at others only breezy, but throughout the afternoon there was always more than is favorable for record-breaking. It was five o'clock when Millard brought her out for her try against 2:00. He had previously given her a mile in 2:12½, evenly rated, and he tells me that to-day was the third time she had been hitched to her racing sulky since she broke the record at Readville. Since then she has been driven to wagon or to a Payne long shaft sulky, except when she was driven to high-wheeled sulky at Cleveland. Hitched to any vehicle she is always the same marvelous flying machine. Nothing seems to unbalance her, or disturb the poetry of her gait. She has now been up to concert pitch since she was shipped East from California in April to the Cleveland sale where she trotted ½ mile in 1:00½. Every task asked of her she has accomplished, and this afternoon she has placed the world's record where she alone, of present day trotters, has any chance to lower it.

To see this fawn-like little mare is at once to love her. She is so dainty, so exquisite, so feminine. In her box she is a baby to be nursed and kissed and petted; but on the track she is electricity clothed in flesh and blood—a delicately perfect instrument keyed to the uttermost pitch and limit. Once I saw her in the blacksmith shop and during the process of shoeing she looked at me in a way which was almost uncanny. It made a chill pass over me, so wonderfully expressive were her hazel eyes. Others have made the same remark about her, and Tommy Waugh has told me that sometimes she looks at him as if she wanted to speak. Nature's ways are mysteriously her own; and certainly Nature surpassed herself in creating this little chestnut mare Lou Dillon.

"Doc" Tanner drove the leading pacemaker, and instead of a canvas strap beneath the cart, a wire screen was used—the same one that was used

in her mile to wagon in 2:01½ at Lexington. This screen certainly plays no part as a wind break, as it allows free passage of the air, and its use proves Mr. Tanner's statement that its purpose is solely to prevent the dirt from striking the mare in the face. She drew the same white Faber sulky which she pulled at Readville. Scott McCoy drove the side runner. Sanders gave Lou a very short score, and she was away at once. Tanner started at least two open lengths ahead with his runner, and rounding the turn, Millard kept out in second horse position and slightly outside of Tanner till after passing the quarter. The pace-maker throughout the mile was not followed as closely as by Dan Patch, for several times the mare was all of 25 feet back of the runner, this being true of almost the entire third quarter, the fastest in the mile. All three drivers remained silent throughout, and Millard never touched Lou with the whip. The first quarter was in 30 seconds, the half in :59½, the three-quarters in 1:28½ (middle half in :58½). Midway of the stretch Millard pulled her out from behind the runner and almost in the center of the track, and she finished in 1:58½ amid applause that was tremendous. The local people regard the mare as their own and they simply went wild when the time was hung out, few such demonstrations having ever been seen at a race track. There was no watch that I saw that caught the mile slower than 1:58½, and many had it a quarter of a second faster. The time by eighths was :15½, :30, :44½, :59½, 1:28½, 1:43½, 1:58½. The official timers were Budd Doble and John Dickerson, and Mr. F. G. Hartwell of Chicago, and all three watches showed exactly the same time.

Mr. Billings was a very proud and happy man after the mile, and said that it was one-half a second faster than he had expected under the circumstances. Millard said he went exactly to the notch he had marked. He thinks she can trot in 1:57½ under perfect conditions, if permitted.



## Lameness

in all forms and Curb, Splint, Spavin, Sprained Cord, etc., all yield readily to and are permanently cured by

### Tuttle's Elixir

Used and Endorsed by Adams Express Company.

Nothing equals it when used internally for Colic, Distemper, Founder, Pneumonia, etc.

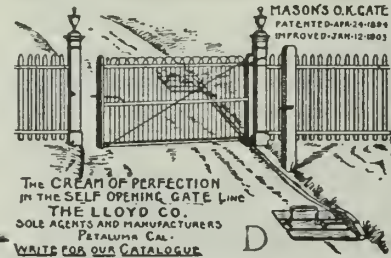
### Tuttle's American Condition Powders

—A specific for impure blood and all diseases arising therefrom.

**TUTTLE'S FAMILY ELIXIR** cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.

Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass.  
487 O'Farrell St., San Francisco, Cal.

Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.



THE CREAM OF PERFECTION  
IN THE SELF-OPENING GATE LINE  
THE LLOYD CO.  
SOLE AGENTS AND MANUFACTURERS  
Pleasant, Cal.  
WRITE FOR OUR CATALOGUE



PAGE

### A COMMON REMARK:

"I don't see how Page 12-Bar, 58-Inch Stock Fence can be bettered. It holds all farm animals."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



### CRONK'S

### Improved Staple Puller

11 in. long

IS AT THE FRONT. Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull staples when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid. CRONK & CARRIER MFG. CO., Elmira, N. Y.

# RELIABLE VACCINES

Prepared in Our Laboratories

## Insure Successful Vaccination

We hereby challenge refutation of the statement that more vaccine of our make was used this year in California than of all other makes put together and with better results.

Here is a sample of the letters we receive from the many users of our vaccines:



THE CALIFORNIA PASTORAL & AGRICULTURAL CO.  
CHOWCHILLA RANCH  
MERCED COUNTY, CAL.  
Registered and Grade Short-Horns

Received October 15, 1903.

The United States Vaccine Co.,  
Fresno, California.

Dear Sirs:—

We have used your single dose Anthrax vaccine very extensively for the past year and find it will absolutely confer immunity, and after having tried all other vaccines which are now on the market, will state we find yours superior to them all, and without doubt producing better results. We have also used a great deal of your Blackleg vaccine which we find is all that you claim it to be.

We are thoroughly convinced we cannot make a success of the cattle raising business without vaccinating for both Anthrax and Blackleg, and we will require a large lot of your vaccines in the early spring.

Yours very truly,

Isaac Bird, Mgr.

OUR FACILITIES FOR MANUFACTURING BLACKLEG AND ANTHRAX VACCINES ARE UNEXCELLED.

CLIMATIC CONDITIONS such as "excessive summer heat" do not affect the manufacture of these vaccines. The highest temperature in our laboratories during the past summer was less than 90°. In making Anthrax Vaccine the incubators are kept at a temperature of 110°, and in making Blackleg Vaccine the temperature of the ovens is about 185°.

OUR PRICES: OUR GOODS ARE THE LOWEST PRICED RELIABLE VACCINES ON THE MARKET.

### Blackleg Vaccine.

Single (Powder—Strings or Pills), 10-dose package.....\$1 00  
Double (Powder—Strings or Pills), 10 doses each Nos. 1 and 2.....\$1 50

### Anthrax Vaccine.

Single—per tube of 10 doses.....\$1 00  
Double—per two tubes of 10 doses each.....\$1 50

### Vaccinating Outfits.

Outfit for either Blackleg (powder) or Anthrax Vaccine, consisting of Syringe and Mixing Bottle in wooden case.....\$3 00  
Special Needle for Strings.....50c  
Injector for using with Pills.....\$1 50  
All goods exchangeable.

IF { YOU VACCINATE  
YOU CONTEMPLATE VACCINATING  
YOU DESIRE ANY INFORMATION ON VACCINE } WRITE US.

The United States Vaccine Company,  
INCORPORATED,  
FRESNO, CALIFORNIA.

KIRK, GEARY & CO., Sacramento, Cal.

Distributing Agents for Northern California and Nevada.

THE WESTERN WHOLESALE DRUG CO., Los Angeles,  
Distributing Agents for Southern California and Arizona.



## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S.F. Animals for sale.

## SWINE.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Reedding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in **Poultry Supplies** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

## California's Finest Holsteins

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records.

Young Bulls for sale.

**PIERCE LAND AND STOCK CO.,** No. 14 Turk Street, San Francisco, Cal.

FOR SALE.  
Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bul calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. J. W. McCORD, Hanford, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All Inoculated for Texas Fever, at OHOWHILLA STOCK FARM Address... ISAAC BIRD, Merced, Cal.

## "Stowe's RED LABEL" Squirrel Poison

WILL KILL YOUR SQUIRRELS.

Satisfaction Guaranteed.

Prepared by C. A. STOWE, STOCKTON, CAL.

## THE VETERINARIAN.

## Answers to Queries.

By E. J. CREEELY, D. V. S., Dean of San Francisco Veterinarian College, 510 Golden Gate Ave.

## GLOSS ANTHRAX.

TO THE EDITOR:—Can you tell me what the disease is, and the remedy for it, among my calves and young cattle? Their tongues swell and they choke to death. The disease is rapid in its development.—L. M. HUPERT, San Jose.

The disease is "gloss anthrax." Consult either Drs. Spencer or Defoe of San Jose at once. To be certain of the diagnosis, you can send a tongue for a pathological examination to the San Francisco Veterinarian College, 510 Golden Gate avenue, San Francisco. No charge will be made for any work like this to PACIFIC RURAL PRESS subscribers.

## Farm Earnings in California.

There are 72,542 farms in California, with an average size of 397.4 acres, says an article compiled for the California Promotion Committee. Of these farms, 1492 are under 3 acres in extent; 5342 are between 3 and 10 acres; 8236 are between 10 and 20 acres. The larger farms are as follows: Thirteen thousand one hundred and ten are between 20 and 50 acres; there are 8067 between 50 and 100 acres and there are 13,196 farms between 100 and 175 acres. There are 4635 farms ranging from 175 to 260 acres; 8370 between 200 and 500 acres; 5329 between 500 and 1000 acres, and 4753 farms more than 1000 acres in extent.

Of the 72,542 farms in California, the following table shows what some of them produce, also giving their size:

	Total Farms.	Av. No. Acres.
Hay and grain	19,048	533
Vegetables	3,045	89
Fruits	18,537	96
Live stock	15,418	812
Dairy produce	8,686	274 8
Tobacco	1	640
Sugar	386	179
Flower plants	208	8 3
Nursery products	141	47 4
Miscellaneous	7,072	231 5

This classification of the products of farms does not exclude such products as are fed to live stock. The earnings of California farms are interesting. Five thousand five hundred and twenty-six farms devoted to hay and grain make between \$1000 and \$2500, and 4706 make \$2500 or over in the same produce.

## Liquid Smoke for Curing Hams.

TO THE EDITOR:—In the PACIFIC RURAL PRESS for Nov. 7 an enquirer asked you about the best way to cure ham and bacon without the aid of smoke, to which you replied, "if it were feasible, the great commercial establishments would have closed their smoke houses long ago." This seems plausible enough. There must, of course, be some reason why they do not close their smoke houses. But that hams and bacon can be cured without the aid of smoke and without getting to "taste as well as a wad of cotton from the dentists," as you express yourself in regard to the use of creosote or "oil of smoke," is nevertheless a fact. I have for several years used so-called "liquid smoke" in curing hams and bacon and I have yet to see the first man that can tell the difference between the taste of hams and bacon cured in that way and those smoked in the regular, old-fashioned smoke houses. I have tried both ways, but prefer curing with liquid smoke any time, as it is much cheaper, decidedly less laborious, and gives just as good results as the old-fashioned way of smoking hog meat. E. SKARSTEDT, Laton, Fresno county.

[We are glad to know of this: now our correspondent should proceed and tell us what the "liquid smoke" is and how he uses it.]



Single and Double Acting Deep Well Pumps of the highest efficiency. STEAM AND GEARED PUMPS pumping water supply for cities, railroads and factories. THE DOWNE PUMP COMPANY. Box 21, Downsville, Pa.

CUTTER'S  
BLACK LEG  
—AND—  
ANTHRAX  
VACCINES.

## CALIFORNIA'S FAVORITES.

## The Lowest-Priced Reliable Vaccines.

Several thousand doses of Cutter's Anthrax Vaccine HAVE BEEN USED THIS SEASON in herds in which disease had already broken out, and in every instance the progress of the disease was stopped. Cutter's Black Leg is the most favorably known vaccine in use in California to-day. It is now made in Pill as well as in Powder and String form. Pill Vaccine is recommended as being safer and more easily used than either the Powder or String Vaccine. Write for description of it and Special Black Leg Pill Injector.

Booklets on Black Leg and Anthrax FREE!

THE CUTTER LABORATORY,  
ROOM 322B, RIALTO BUILDING. SAN FRANCISCO, CAL.

## SAMPLE TESTIMONIALS.

Office of Cone Ranch Company, }  
Red Bluff, Cal., Oct. 6, 1903. }

The Cutter Analytic Laboratory, San Francisco, Cal.

Gentlemen:—Referring to your favor of recent date, would say that we have found in our experience of nearly three years in the use of your Black Leg Vaccine, that the results have been very satisfactory. We have vaccinated from 500 to 750 head each season, and each time after some deaths had occurred from Black Leg, and in every instance the disease stopped immediately after vaccination.

Having given your vaccines such a trial, it gives us pleasure to recommend them to fellow stockmen. Respectfully, CONE RANCH CO., T. H. Ramsay, Mgr.

Courtland, Nov. 3, 1903.

The Cutter Analytic Laboratory, San Francisco, Cal.

Dear Sirs:—I have used your Black Leg Vaccine for the last three years, with very gratifying results. Have never lost any cattle from Black Leg, but have used your vaccine as a preventive.

I generally vaccinate about thirty head of young cattle annually. Mr. Ed. Johnson, a neighbor of mine, lost seventeen head out of twenty-five. After losing this number he sent and got your vaccine and has had splendid results since that time.

I cannot say too much in behalf of your Black Leg Vaccine. Please send me enough of your powdered Black Leg Vaccine (single) for twenty head. Yours very truly, J. M. BUCKLEY.



## PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue, with Prices.

BURNHAM-STANFORD CO.,

Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.

San Francisco Office, 40 New Montgomery St.

## HAPPY NEW YEAR!

January 1, 1904, or as soon before as our OWN New Building is completed, our home will be at 113-115 Market St., where we hope to see all our old friends and make many new ones.

WE NOW HAVE ON HAND QUITE A STOCK OF Wagons, Buggies, Carriages; Plows, Harrows, Cultivators and other farm implements, and don't want to move them.

We have BIG BARGAINS in all these lines for you. Call or write us at 222 Mission St., San Francisco, Cal.

ALLISON, NEFF & CO.,

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

N. OHLANDT & CO., Indiana and 24th Sts., San Francisco.

## MIDLAND FEED. THE ONLY BALANCED RATION FOR POULTRY IN THE WORLD.

TEN BRANDS—Each for a specific purpose. Each one complete in itself—NO ACCESSORIES.

Intelligent Feeding of Poultry always returns a profit. Improper feeding does not. It costs no more to feed right than wrong. The nutritive ration must be balanced to meet specific requirements. Our booklet, "The Science of Poultry Feeding," tells you all about it. We will also send you, on request, our booklet "Poultry Fattening Perfected," which describes our new Poultry Crumpling Machine and method of use; also trough feeding, and our special brand of Grenadier Meal; the only Perfect Feed on earth for this purpose sold under a specific guarantee. Write for them at once and get posted. THE BETALUNA INCUBATOR CO., Pacific Coast Agents, BETALUNA, CAL.



## FRUIT MARKETING.

### California Fruit in London.

T. T. Williams, writing to the Examiner from London, has this to say about California fruit in general and A. Block of Santa Clara in particular:

"As a loyal Californian I am delighted to be able to write that just at the present time his grace the Duke of Bedford, with a capital 'G,' appears to be principally acting as agent for Block of Santa Clara. Block of Santa Clara is unknown to me, but he is not unknown to Covent Garden market. On the contrary, Block of Santa Clara and his grace, the Duke of Bedford, now seem to share Covent Garden market between them, and the larger share goes to Block of Santa Clara.

There are about seventy-five dealers in fruit in Covent Garden and seventy-five of them are offering pears and apples from Block of Santa Clara, while a few are showing oranges from Thermalito or Oroville. The prevalence of Block of Santa Clara surprised me so much that I asked questions of Solomons of Piccadilly.

**WHY BLOCK'S PEARS ARE BEST KNOWN.**—Solomons is the greatest London fruiterer. He supplies all the royal families and he charges three times as much for a pound of grapes as any other fruiterer.

"Have you any fine pears?"

"Yes, sir, the finest in the world—California Bartletts from Block of Santa Clara."

"Why are they better than any other?"

"Come in better condition, sir, and are finer fruit."

"But Santa Clara does not grow better pears than Sacramento or Yolo."

"Never heard of them, sir, and I've been in the business twenty-five years."

"I questioned another dealer in Covent Garden on the same subject. He was a courteous Englishman, and they are quite common, and he took pains to show me that in one box the fruit was too full and was consequently bruised by the cover, and that in another box it was too loose and therefore bruised itself. Some fruit was small, some too

green, some too ripe, some harbored worms, some had no flavor, but the boxes branded 'Block, Santa Clara,' contained evenly good fruit properly packed.

"There were fine apples from Walla Walla in the market and even finer from Oregon, but the very pick and the highest price bore the brand of Block of Santa Clara.

"Englishmen do not like their names to be mentioned, but a number of them told me some things about the possible sales of California fruit that seem worth remembering. Here they are:

"There was a total failure of the English fruit this year on account of lack of sunshine, but the good California fruit made such a hit it cannot be displaced, provided:

"Don't glut the London market with too many competing shipments. Fruit sold in great lots to the hawkers does not pay any one a profit. Have competent men in London to estimate the demand and undersupply rather than exceed.

"Fruit must be sightly. English fruit, such as plums, peaches and grapes, is far handsomer than the Californian.

"Packing must be perfect. Better spend a few cents more for putting up a box of pears than to have the lot sold to a street hawker for twenty-five cents, because the pears are bruised.

"Ship only the very finest fruit. Block of Santa Clara seems to understand that. His apples are probably the very pick of the district around Watsonville, and his pears selected from the belt around the bay, but, at any rate, he has made a name for himself and has the confidence of the people in The Garden.

"Ship in good strong boxes, free from knots and weak boards. Four times handling will bring out the weak places in a box, and a broken slat means a feed for the street boys.

"Do not ship any fruit unless you are positive it will be ripe and handsome the day after arrival in London.

"Don't ship a box of fruit unless you have been told that there is a fair demand, and you have an agent to look after its delivery. In the absence of proper arrangements it would be better to keep the fruit at home or offer it for export to some one that knows the ropes, like Block of Santa Clara.

**VARIETIES LONDON WANTS.**—"The caterer of a large hotel has been kind enough to tell me the California fruits that were most acceptable. Bartlett and Winter Nelis pears, large yellow peaches, the hard green apples with a slightly acid taste—not the soft red ones; golden egg plums, green gages, grape fruit, Damson plums. California grapes were not in demand, though a few liked the decorative appearance of the Tokays and the flavor of a fine thin-skinned table grape called Verdel. Muscats came from Spain in great variety and cheap. California apricots were in great demand and also the large cherries.

"My opinion is that the trade can be enlarged and improved next year, but shippers must regulate their shipments and above all pack well.

"Ripe figs from Italy come to London packed in cotton wool, six in a basket. Grapes from Spain are packed in cork shavings and English grapes are sent up in hampers and are handled as carefully as small babies. I am not an expert, but rather think that if fine plums and peaches were packed in cardboard cases like egg boxes, the result would be profitable to shippers. At any rate, if it pays the English grower to market ten pounds of grapes in a ten-pound hamper, the Californian ought to find it profitable to pack properly."

### Stock for Hilo.

Peter Saxe & Son have shipped this week by the bark Amy Turner one two-year-old thoroughbred Hereford bull, four Berkshire hogs and two dozen brown and white Leghorn fowls to the Samuel Parker ranch, Hilo, Hawaii. Mr. Homer Polk Saxe, the manager of the firm, has made up the shipment with much care.



**AN ANCHOR OF SAFETY TO DAIRYMEN**

**THE U.S. CREAM SEPARATOR**

Buy the U. S. Separator and find it an anchor that will keep you from drifting onto the rocks of discouragement and loss. Nothing like it to make Money and save Labor.

**THE U. S. SKIMS CLEANEST AND WEARS LONGEST**

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Write for illustrated catalogues.

**Vermont Farm Machine Co., Bellows Falls, Vt.**

## There are Two Sides to Successful Dairying--COWS AND A DE LAVAL SEPARATOR.



**A Cream Separator WILL PAY YOU**

if you buy the right machine and there is only one right machine.

**DE LAVAL CREAM SEPARATORS**

are used exclusively by every large and experienced creamery and dairyman the world over.

Profit by the experience of 400,000 farmers and equip your dairy with a De Laval. Especially valuable in home dairying.

Everything needed in the dairy supply business carried by us. We carry the largest stock of dairy supplies on the Pacific Coast.

Write for the new 20th Century Catalogue.

**DE LAVAL DAIRY SUPPLY COMPANY,**

9-11 Drumm St. SAN FRANCISCO, CAL. 65 Front St. PORTLAND, ORE.

## POOR SEPARATORS MAKE POOR FARMERS!

## 9 CORDS IN 10 HOURS BY ONE MAN



**RUNS EASY; NO BACK ACHE.** **EASILY CARRIED. SAWS DOWN TREES**

Forced to cut fast by large coil springs. Springs can be adjusted to suit a boy 12 years old or the strongest man. Folds Like a Pocket Knife.

With our Folding Sawing Machine, saws any kind of timber. Instantly adjusted to cut log square on rough or level ground. Operator always stands straight. One man can saw more with it than two men can in any other way, and do it easier. Saw blades 5 1/2, 6, 6 1/2 or 7 ft. long. Champion, Diamond or Lance Teeth, to suit your timber. **GUARANTEE.**—If any part breaks within three years, we will send a new part without charge. Send for Free Catalog showing latest improvements, giving testimonials from thousands. First order secures agency.

**FOLDING SAWING MACHINE CO., 55-57-59 N. Jefferson St., Chicago, Illinois.**

## GREENBANK BEST PRUNE DIP. POWDERED 98% CAUSTIC SODA. PURE POTASH.

## W. & P. PAINT.

Good for any purpose where black paint is required; for inside or outside of tanks for wineries and creameries; for floors, sinks, and wash trays; for insulating; for timber or roof preserving; for damp course for walls; for boilers, fronts, stacks, or other iron work; for anything or any place needing preservation from corrosion, dampness, rust or decay. Unaffected by acids or alkalis. Odorless, and safely applied. Dries quickly and is tough and durable. Lowest in price; best, irrespective of price. If interested let us send you sample.

**PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.**

## AUTOMOBILES

### AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!

### MOTOR VEHICLE CO.

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

## WANTED, SMALL OR LARGE SECOND-HAND OLIVE CRUSHER.

Address F. M. ROESSLER, FRESNO, CAL.



## Seeds, Plants, Etc.

### Abundant Rains

Insures a good season for tree planting. The

### SEBASTOPOL NURSERIES

is the place to get **GOOD TREES.**

WRITE FOR PRICE LIST.

**T. J. TRUE, Sebastopol, Cal.**

### BLUE GUMS. RED GUMS.

Monterey Cypress---Transplanted in Boxes.

WRITE FOR PRICES.

Delivered on Wharf in San Francisco.

**W. A. REINHOLDT, Petaluma, Cal.**

### RIVERSIDE NURSERY, 320 River Street,

Santa Cruz, Cal.

**1500 CHERRY TREES, \$15 PER 100.**

Lewellyn, Olympia, Napoleon, Royal Ann, Black

Tartarian, Blackheart.

**5000 APPLE TREES, \$10 PER 100.**

4 to 6 ft.; Extra Well Rooted; Clean.

Yellow Bellflower, Y. N. Pippin.

Refer to City Bank,

**HENRY SHAW.**

### Bargain in Citrus Trees.

We have for sale several thousand fine orange

trees—leading sorts—for sale at special rates if

taken before Dec. 1st. Headquarters for trees on

trifoliata or frost resistant root.

**WAGNER'S NURSERY,**

Tel. Res. Suh. 108. **PASADENA, CAL.**

### ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most

thoroughly meated cantaloupes. Price \$1.00 per lb.

Special price in large quantities. You can't beat

them. We grow the best. **FARMERS' AND MER-**

**CHANTS' BANK, Rocky Ford, Colo.**

FOR SALE, Choice Tulare and Summit Lake  
**ALFALFA SEED**  
Samples and prices granted on request.  
**KUTNER-GOLDSTEIN CO., HANFORD, CAL.**

### BERRY PLANTS

Logans, and Gray's Gardena Dewberries  
**SPECIALTIES.**

These Dewberries have produced over 5 tons of fruit

on ½ acre. For descriptive list, address

**W. J. EMBREE,**

Rural Box 61. **El Monte, Los Angeles Co., Cal.**

## COX SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

## BULBS

Now is the time to plant

**HYACINTHS, TULIPS, NARCISSUS,**

**SPANISH IRIS, RANUNCULUS,**

**ANEMONE, ETC.**

Send for our Bulb Catalogue.

Telephone Main 199.

**BLAKE, MOFFITT & TOWNE,**  
**DEALERS IN PAPER,**

Nos. 55-57-59-61 First St., San Francisco, Cal.

**BLAKE, MOFFITT & TOWNE.....Los Angeles.**

**BLAKE, McFALL & CO.....Portland, Or.**

# Fresno Nurseries.

ESTABLISHED 1889.

**SPECIALTIES---DECIDUOUS FRUIT TREES AND ROOTED VINES.**

**APRICOTS,** on Apricot, Peach and Myroblan roots.

**PEACHES,** on Peach and Almond.

**PRUNES,** on Almond, Myroblan, Peach and Apricot.

**ALMONDS,** on Peach and Almond.

**NECTARINES, APPLES, CHERRIES, PLUMS, PEARS, ETC.**

### ROOTED VINES OF ALL VARIETIES.

All stock is of my own raising and **TRUE TO NAME.**

Send me a list of your wants.

Address

**FRESNO NURSERIES, F. H. WILSON,**  
P. O. BOX 42, FRESNO, CAL. Proprietor.

## Largest Nursery

West of the Rocky Mountains

### CALIMYRNA FIGS

(Genuine Smyrna Fig of  
Commerce)

The only Fig that is fit for  
commercial purposes. It has  
proven a grand success in  
California, and orchardists  
should not hesitate to plant  
liberal acreage. "The  
Smyrna Fig at Home and  
Abroad," by Geo. C. Roeding,  
87 pages illustrated, sent  
postpaid, 25c (stamps).

Contracts made now  
for delivery 1904.

**Deciduous,  
Citrus and  
Ornamental  
Trees and  
Rose Bushes.**

Finest and most com-  
plete Nursery Catalog  
published mailed for  
five cents postage.

### RESISTANT GRAPE VINES

Sole agents in the United  
States for largest Nursery in  
France growing Resistant  
Grape Vines. In addition to  
this we are also large growers  
of Resistant Grape Vines our-  
selves. Quotations given on  
rooted Resistant Grape  
Vines, grafted to the leading  
varieties of table and wine  
Grapes. As we handle in car  
lots we can make very low  
prices.

PAID UP CAPITAL, \$200,000  
**FANCHER CREEK NURSERIES Inc.**

GEO. C. ROEDING, PRESIDENT AND MANAGER

P. O. BOX 18 **FRESNO, CAL.**

# TREES.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

APPLE,  
CHERRY,  
PEACH,

PLUM,  
PRUNE,  
APRICOT.

# BULBS

FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

**TRUMBULL & BEEBE,**

Seedsmen and Nurserymen, 419-421 Sansome St., San Francisco.

## CHICO NURSERY Co. (INC.)

We offer a full line of **TREES, VINES** (including  
**RESISTANT GRAPE STOCK**), **ORNAMENTALS**,  
**BLACK WALNUT** (Eastern and  
Californian), **CAROLINA POP-**  
**LARS**, etc., grown on virgin soil and  
free from bacterial or fungus diseases  
and insect pests. They are the kind  
that grow and **PAY**. Why not or-  
der early, plant early, and not get  
swamped with work next spring?

**BUY  
STURDY  
CHICO  
TREES.**

**CHICO NURSERY CO., 1200--3rd St.**  
**Chico, Cal.**

## OREGON NURSERY Co.

**SOLE PROPRIETORS AND INTRODUCERS OF  
BURBANK'S NEW PLUM-MAYNARD**

**THE GREAT FROST-RESISTING  
TILTON APRICOT**

Also the most complete line of Deciduous  
Fruit, Shade and Ornamental Trees, Shrubs,  
Plants, etc., on the Pacific Coast. See our  
Traveling Salesman, or write for complete  
catalogue and price list. Address

**SALEM OREGON**

No. 6--12th Street.



### PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree  
as grown in the San Dimas Citrus Nurseries, show-  
ing a perfectly shaped head to make a first-class  
and profitable tree when planted out. It is a one-  
year-old bud, affording a splendid object lesson of  
the superior orange and lemon trees we are now  
offering. Our monograph on "Citrus Culture,"—  
finely illustrated—tells all about planting and  
care of orange and lemon trees. If you will write  
we will be pleased to send you one.

**SAN DIMAS CITRUS NURSERIES**

**San Dimas, Cal.**

# California Fruits.

**NEW EDITION (3rd). LARGELY REWRITTEN.**

**By PROF. E. J. WICKSON.**

### CONTENTS.

#### Chapter.

- I. The Climate of California and Its Local Modifications.
- II. Why the California Climate Specially Favors the Growth of Fruits.
- III. The Fruit Soils of California.
- IV. The Wild Fruits of California.
- V. California Mission Fruits.
- VI. Introduction of Improved Fruit Varieties.
- VII. Clearing Land for Fruit.
- VIII. The Nursery.
- IX. Budding and Grafting.
- X. Preparation for Planting.
- XI. Planting Trees and Vines.
- XII. Pruning Orchard Trees and Thinning Fruit.
- XIII. Cultivation.
- XIV. Fertilizers for Fruit Trees and Vines.
- XV. Irrigation of Fruit Trees and Vines.
- XVI. The Apple.
- XVII. The Apricot.
- XVIII. The Cherry.
- XIX. The Peach.
- XX. The Nectarine.

#### Chapter.

- XXI. The Pear.
- XXII. Plums and Prunes.
- XXIII. The Quince.
- XXIV. Vine Propagating and Planting.
- XXV. Pruning and Care of the Vine.
- XXVI. Grape Varieties in California.
- XXVII. The Date.
- XXVIII. The Fig.
- XXIX. The Olive.
- XXX. The Orange.
- XXXI. The Lemon, Lime, Etc.
- XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
- XXXIII. Berries and Currants.
- XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
- XXXV. Fruit Canning, Crystallizing and Drying.
- XXXVI. Injurious Insects.
- XXXVII. Diseases of Trees and Vines.
- XXXVIII. Injurious Animals and Birds.
- XXXIX. Protection from Winds and Frosts.
- XL. Utilization of Fruit Wastes.

**Price \$2.50, Postpaid Anywhere.**

## CALIFORNIA VEGETABLES

**GARDEN AND FIELD.**

**By PROF. E. J. WICKSON, Author of "California Fruits."**

The only book published on Vegetable Growing in California.

**Price, \$2.00 Postpaid.**

**PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.**



# EIGHTEEN YEARS AGO

The first NEW DEAL PLOW was  
built by the

## John Deere Plow Co.

and it was by far the best Gang Plow built  
at that time. Many improvements have  
been made since then, but the

## New Deal

STILL HOLDS THE LEAD.

For heavy work and for use with traction  
engines we construct a plow with extra  
heavy beams and braces at a small ad-  
vance in price over the regular plow. All  
gangs are now equipped with high wheels  
and closed end dirt-proof boxes. All bot-  
toms have soft center steel mouldboards.



Made with 1, 2, 3, 4 and 5 Bottoms.  
8, 10, 12 and 14 Inch Cut.

Write for Special Circular and Prices.

## Deere Implement Co.

309 Market Street,  
SAN FRANCISCO, CAL.

(AWARDED FIRST PREMIUM CALIFORNIA STATE FAIR, SACRAMENTO, SEPT. 1903.)

# Would a La Crosse Disc Plow

interest you, if it was a *distinct improvement* on any similar plow you have  
ever seen?

If the set of the discs enable you to do *better work*?

If it will plow hard, dry ground with *less weight* than any other?

If in many cases where other plows need some weight ours needs *none*?

If it can be *turned to right or left* with equal facility?

If it can cut an *eight, ten or twelve inch furrow* without changing the  
frame?

If the *discs* can be removed instantly without a wrench?

If the disc bearings are *dust proof* and run in oil continually?

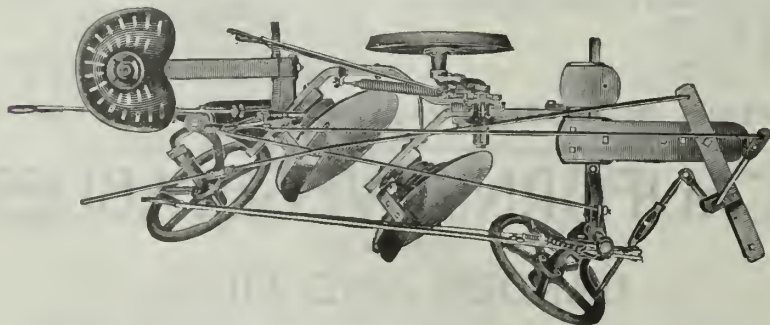
If each wheel can be *raised or lowered* by an independent lever?

If the *land gauge* is far superior to any previously invented?

If the orchard type will run *closer to the trees* than any other?

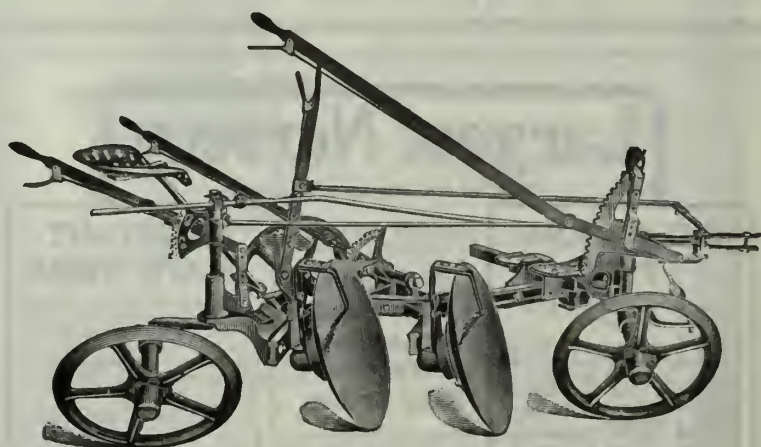
If the draft is *one horse lighter* than on any other?

If this subject interests you and you want a plow with all these points  
of superiority, we can supply it. We know this, as we have tested it.



LA CROSSE TWO-DISC PLOW (Orchard Style--Top View).

Note how close is the land wheel to the frame. This arrangement and  
the special low levers will allow of closer working to the trees than can be  
accomplished with any other plow. The above cut shows plow ready to turn  
squarely to right; with equal ease it may be turned squarely to the left.



LA CROSSE TWO-DISC PLOW (Field Style).

We are in position to supply 1-2-3-4-5 or 6-Disc  
Plows.

Notice the perfect land gauge and leveling lever on  
rear wheel.

SEND FOR  
Implement Catalogues  
NOS. 28-29,  
Vehicle Catalogue  
NO. 31.



"KENTUCKY" DISC DRILL, STEEL FRAME.

Our line of Disc and Shoe Drills offer facilities to the  
farmer for seeding his farm by most modern methods.

## HOOKE & CO.

16-18 DRUM ST., SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 22.

SAN FRANCISCO, SATURDAY, NOVEMBER 28, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### The Orange on Citrus Trifoliata.

One of the most interesting questions in our fruit growing at present is the standing of the wild deciduous orange of Japan (citrus trifoliata) as a stock for the sweet orange varieties which we find it profitable to grow in California. As this stock has been so largely used by the Japanese as a foundation for the small trees which they delight in, and which have been introduced to this country without any conspicuous success, an impression has been created that the trifoliata was too dwarfing in its effect to produce the rather free-growing, low-standard trees which seem most desirable to California growers. We have had that impression ourselves from observation of the Japanese trees, but we are ready to admit that we may have labored under misapprehension. Certain leading citrus nurserymen of southern California, for whose testimony we have the highest respect, have been doing a great deal with trifoliata lately, and are reaching a demonstration which all in the fruit interest should understand. When we had the subject under consideration some months ago, Mr. J. B. Wagner, nurseryman at Pasadena, took issue with us on the satisfactory degree of freedom of the growth upon trifoliata and made his point good. Mr. R. M. Teague of the San Dimas citrus nurseries has also demonstrated to his satisfaction the desirability of trifoliata, and is, we understand, propagating largely upon it. The testimony of Florida authorities on the extra hardiness of trees on this stock seems also clear and strong. For these reasons, we take up the subject in this place, and in connection with the pictures cite statements largely from the writings of Mr. Wagner, which will, we believe, interest our citrus growing readers.

As already stated, the fact that this stock has been considerably used for the propagation of small orange trees for house culture and for grounds in the East, where the trees must be removed indoors in winter (for which it is especially well adapted,) has led to the impression that varieties worked upon it were necessarily very much dwarfed. This is apparently an error; in open-ground culture oranges upon trifoliata stock are not dwarfs in this diminutive sense, but make good, large trees. We have reports from various sections of the orange growing region upon the size attained by different varieties of oranges upon trifoliata stock, showing that Satsuma and other varieties of the Mandarin class, varying in age from 5 to 9 years, ranged in height and spread from 8 to 12 feet, while other varieties at 7 years were 15 feet high, with corresponding spread. Of course the commercial orange grower does not desire a large tree; he simply demands a strong, thrifty tree which will give enough good sized fruit, and if the trifoliata succeeds toward that end it certainly makes a tree which is large enough for commercial purposes.

The production of a hardy tree is also a desirable thing. Mr. Wagner has taken much pains to secure testimony concerning various forms of hardiness. First as against drouth. Two photographs are shown on this page, representing two trees set out some years ago by B. O. Clark on a block of land in a deciduous orchard across the street from Mr. Wagner's home. For ten years after they were set they had no water whatever, other than what was supplied by rains (which, by the way, was very limited the past few years), until three years ago, when the other trees were pulled up and oranges set instead. During all this time the above trees produced good and heavy crops

of fruit, and, what is further, fruit of fairly good quality. At the same time there was some orange trees planted in same block on other roots. These all died before the third year. Mr. A. D. Hawks of Hawks Packing Co., Sierra Madre, is producing good annual crops of oranges on this root with very little water, and some years no irrigation whatever. We do not believe in undertaking to grow oranges commercially without irrigation, but the fact that these trees endured their hard fare is valuable in showing the hardiness of the root.

Another indication of hardiness is safety from low temperatures. We do not need all that is claimed for this root in the north of Florida and elsewhere northward of that district. But the testimony is very strong, and on the basis of it the idea of producing by crossing a deciduous orange for wintry climates has been indulged in. That is more than we have any use for in this State. But the quality of frost resistance is valuable here. Mr. Wagner's observation is that the trifoliata stops growing early in the fall, is entirely dormant in winter, and starts late in the spring. Varieties of orange and citrus fruits worked upon it will stand



Six Months Old Washington Navel Buds 4 to 6 Feet Tall Budded on One-Year Trifoliata Root.

10° more cold than any other stocks; however we explain the fact, the fact remains, demonstrated by experience. The use of this stock does certainly reduce the frost risk in exposed locations and trees budded upon it can be successfully grown in many places north of the present range of orange production. Experience thus far also indicates that the habit of this stock to harden up early in the season hastens ripening, an important item in localities where early ripening means good prices.

Early bearing is naturally to be expected from working on trifoliata, and that this is realized we have the testimony of Mr. Wagner that all varieties budded on this stock come into bearing at a very early age. He also says that in localities where some sorts bear only light crops, worked on trifoliata they yield heavy annual crops.

One picture shows how the trees look in a trifoliata root in the nursery. They tend to strong upward growth unless headed back. Buds on this stock are rampant growers. Mr. Wagner has had trees on small roots 4 to 6 feet, while same age tree on ordinary root only made 3 to 4 feet on same size stock. He finds this stock, as well as trees worked on it, can be moved without loss balled or bare roots even in winter time, or windy weather. From his own experience he is able to say that trees on this stock will stand more drouth and frost, bear younger and more prolific, as well as ripen fruit earlier, than any other known stock.

KERN COUNTY alfalfa seed is going to the Transvaal, and the demand from that quarter, according to information, is limitless. Alfalfa seed is bringing 12½ cents per pound wholesale.



Orange Trees on Trifoliata Root, Which Produced Annually Almost Twice as Many Oranges as Same Aged Trees on Sweet Root in Same Orchard.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON Horticultural Editor

SAN FRANCISCO, NOVEMBER 28, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Six Months Old Washington Navel Buds 4 to 6 feet Tall Budded on One-Year Trifoliata Root; Orange Trees on Trifoliata Root, Which Produced Annually Almost Twice as Many Oranges as Same Aged Trees on Sweet Root in Same Orchard, 337.  
EDITORIAL.—The Orange on Citrus Trifoliata, 337. The Week, 338.  
QUERIES AND REPLIES.—Lime Paint for Young Fruit Trees; Nematodes and Figs; In Trouble About Walnuts; An Evergreen Blackberry, 338. The Point of Doubt in the Artichoke; Cream Cellar—Churning; Pruning Roses; Does the Phylloxera Cause Difficulties in Fermentation? Sterilizing and Boiling; Not the True Jordan Almond; Products of the Bay Tree; Not the San Jose Scale; No Relation to the Sultana, 339.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Nov. 23, 1903; Temperature and Rainfall, 339.  
HORTICULTURE.—Fruit Gardens in California; How a California Woman Grows Strawberries, 340.  
THE APIARY.—The Introduction of Honey Bees to California, 340.  
THE POULTRY YARD.—Hints on Squab Raising, 341.  
THE VINEYARD.—Notes on the California Vine Disease; Getting at a Contract Price, 342.  
THE VETERINARIAN.—Answers to Queries—For a Sore Teat; Dirt Eating Causes Acute Indigestion; Milk Fever of the Cow, 342.  
RANGE INTERESTS.—The Interior Situation, 342.  
AGRICULTURAL REVIEW.—343.  
THE HOME CIRCLE.—Sweet Cider; Old Sharkey, 344. Domestic Hints; Hints to Housekeepers, 345.  
THE MARKETS.—Produce Market; Fruit Markets, 346.  
FRUIT MARKETING.—Shipping Bartlett Pears to European Markets, 350.  
MISCELLANEOUS.—Farmers' Club Institute in San Diego; Preparing Poison for Gophers, 348. Fair Prices for Land and Aid in Development, 349. New Patents, 350.

## The Week.

It is Thanksgiving week and our journal, as is its wont, goes to press a day earlier than usual, to allow its employes to enjoy the holiday. The Thanksgiving spirit runs high this year; even the turkeys are roosting so high that many will no doubt content themselves with more ordinary rations. It certainly will require a large voltage of the thankful spirit to rise to the 35-cent limit which the turkey retailers have set for a pound of the truly American bird. But one can be thankful without turkey or with it, as the case may be; and, after all, it is the uplifting, optimistic sentiment of thankfulness which it is important to cherish and for which the national holiday is ordained. Let this be the injunction, then: For once in the year at least let gladness prevail and thankfulness be the mainspring of thought and action.

Wheat is nominally unchanged, but there is little doing and easy in tone. Futures are weak, though not much lower. There have been no clearances of either wheat or barley. A charter for barley has been made at 10s 6d, which is the record for the lowest limit; others for wheat and barley have been made at 11s 3d and 11s 6d. Barley is unchanged and steady. Light supplies and the shipping demand sustain values. Corn is quiet and weak. Oats are sustained, as the Government is calling for 4300 tons for Manila to be delivered either here or at the north. Beans are a little firmer for large whites, pinks and reds. Bran is in fair supply and unchanged; middlings are in small supply and held firm. Hay is quiet and steady; not much arriving and not much called for. The Government wants 5435 tons for Manila. Beef and mutton are unchanged; hogs are weak and depressed in sympathy with Eastern conditions. Butter is weak and concessions rumored. Cheese is quiet and easy. Fresh eggs are still out of sight—selling even to 55 cents per dozen in a small way. Poultry is very strong. Dressed turkeys have sold up to 30 cents wholesale and live turkeys to 26 cents. Eastern supplies are short and turkeys poor. Potatoes and onions are higher, firm and active. Apples are in large supply, but are firm, owing to a considerable demand for desirable fruit. Pears are also selling well if good. Oranges are improving in quality and meeting a good shipping demand. Lemons are steady. Dried fruits at wholesale are slow, and yet considerable shipments are being made by sea; three steamers have taken 510,000 pounds of prunes, 150,000 pounds of raisins and 140,000 pounds other

fruits. Almonds are in good demand and supplies largely disposed of. Walnuts are firm. Fine honey is in light supply; 400 cases have gone to New York. Hops are firmly held at former prices. Wool is doing nothing locally, but some movement to New York is going on.

We hope all who can are preparing to attend the Fruit Growers' Convention, which will open in Fresno on December 8th and continue four days. We have thus far seen only an outline of a programme. Governor Pardee will deliver the opening address, and Lieutenant-Governor Alden Anderson, a prominent fruit man, will make a report on a subject of interest to fruit growers. Among other speakers will be Newton B. Pierce of Santa Ana, a pathologist of the United States Department of Agriculture; Edward Berwick of Monterey county, and Harry P. Stabler of the California Employment Committee, who will speak on the important subject of farm help in the busy season. A day will be devoted to the discussion of insect pests by Professor A. J. Cook, E. M. Ehrhorn and Alexander Crow. Professor C. W. Woodworth and W. T. Clarke of the University of California will report on the results of their Pajaro valley campaign against the codlin moth. Viticultural topics will be given one day, and among the speakers on this subject will be Robert Boot and T. C. White of the Raisin Growers' Association. M. T. Kearney will address the convention on co-operation in the handling of cured fruits, and G. C. Roeding, the authority on figs, will discuss this fruit. The women's session will be largely under the direction of Fresno women, who are planning for a successful affair. No doubt many other things of interest and importance can be expected in addition to those mentioned above, and the meeting should be one of the best of the series.

Many of our readers will hear with deep regret of the sudden death of Mr. B. N. Rowley of the California Fruit Grower. He was stricken down at his desk with apoplexy and did not recover consciousness. Mr. Rowley has been very active in many progressive affairs and was greatly liked for his alertness and energy in pursuit of objects which commanded his interest. He has been for a long time a member of the State Board of Trade, he has done much to promote the success of the fruit growers' conventions and in other ways demonstrated his public spirit. He will be long missed from the circle of his activities.

We now have a decision defining the limits of the powers of the State horticultural machinery. Attorney-General U. S. Webb has given an opinion to Governor Pardee, to the effect that the State Commission of Horticulture has not the authority to take possession of and destroy trees or vines, in orchards or vineyards, which may be affected with contagious or infectious diseases. The powers of the commissioner, says the Attorney-General, appear to be those only of education, investigation and quarantine, and all additional powers which might at first glance seem general in their nature, will be found on closer scrutiny to apply only to regulations of quarantine. The Act of 1897, providing for county boards of horticulture, and giving them authority to abate nuisances, applies only to trees infested with scale insects, codlin moths and other insect pests, and has no reference to fruit tree diseases, and there is, therefore, no officer in the State authorized to destroy such diseased orchards as a nuisance. This brings in the question of what constitutes a diseased tree and the attorney seems to draw a line between insect injury and disease. This is a refinement which horticulture does not usually recognize, though, of course, there is such differentiation in the labors and publications of the experiment stations. As to the intent of the law to make no distinction there can, however, be no doubt.

United States Vice-Consul Adolphe Danziger, writing from Madrid under date of October 12, 1903, says that the Government of Spain is to open fourteen agricultural schools in various parts of the peninsula. They are to be practical means of educating farmers not only in regard to the crops raised, but in the use of agricultural machinery and implements. While they will be governmental institutions, the contracts to equip them will be let to private parties and bids are soon to be asked for.

## QUERIES AND REPLIES.

### Lime Paint for Young Fruit Trees.

TO THE EDITOR:—Some time ago you advised me to add "putrid tallow" to keep off rabbits, but I cannot get this to stink loud enough now; can one add asafetida without harm; also will glue save the "wash" being taken off by rains? I have over twenty acres of trees to protect.

With what can I treat young fuchsia plants that are infested with some kind of aphid and look sickly?—SUBSCRIBER, Payette, Idaho.

We have no objection to your adding asafetida; it will not hurt the tree, and the rabbits will have to show you what they think of it. The addition of glue will make the wash hold better during rains, and if you get very cheap glue you may get smell enough also to serve the purpose. Get all the smell you can for the money. Fuchsias can be sprayed with whale oil soap, one pound to four gallons of water, or with kerosene emulsion—both will readily kill aphides.

### Nematodes and Figs.

TO THE EDITOR:—I understand that the nematode (*Heterodera radicola*) is prevalent in the clover fields and vegetable gardens of the South and East. Have you any record of its presence in this State? In Bulletin No. 5, United States Department of Agriculture, Division of Pomology, F. E. Earle, in an article on fig culture in the United States, warns against planting the fig in soils infested with this pest. I am contemplating the planting of the fig upon land now in alfalfa, and would like to know whether there is any danger from this pest?—H. W. WRIGHTSON, Fresno county.

We do not apprehend any danger from nematodes. These minute worms are present under certain conditions in California soils, but they have never manifested themselves by such injuries as they are credited with at the East and South. Our fruit trees do not seem to be affected, except in the rarest instances. The English walnut is quite subject, for instance, and yet we have seen only one case in twenty-five years, and never another from the same place, though the country is largely planted to English walnuts. Alfalfa is not affected, so far as we have seen, and even those garden vegetables which are most subject are seldom invaded. We should not hesitate in fig planting in California for that apprehension.

### In Trouble About Walnuts.

TO THE EDITOR:—Wishing to plant about ten to fifteen acres of walnuts, would like for you to give me the names of those varieties that will do best in this locality. I have been making inquiry of late but find nothing satisfactory—while some plant one kind, others plant according to the variety a nurseryman just happens to have. For instance, last spring a good many trees were set out of the Ford's improved soft shell. An agent was selling them here and I asked him if they were late bloomers. He said: "Why, yes; have never known a failure on Ford's improved trees," but in catalogues it does not describe them as late bloomers. Others, again, are planting Santa Rosa soft shell, but I cannot find out anything about them as catalogues simply advertise them without giving any history or habit of growth. Some people say the Bijou is a fine tree, good to bear, but what we want here is a tree that is a late bloomer, as well as producing a good marketable nut. The Proparuriens are doing all right on hill-sides, but when planted on bottom lands they only bear one year out of five. This has been my observation here, so they are not altogether very promising. If any kind reader of your valuable paper would give me a few pointers on what to plant, I will thank him very much.—A SUBSCRIBER, Healdsburg.

Our correspondent should be helped, and those who have pointers for him will please heed his request. The Ford improved soft shell of the southern countries is seldom satisfactory in the upper part of the State. The French varieties, like the Proparuriens, are the safest, but if this variety fails it is probable that the lowlands are too frosty for that class. The Santa Rosa soft shell is one of Mr. Burbank's varieties, in which he has the fullest confidence, for it has borne regularly and well in the Santa Rosa valley.

### An Evergreen Blackberry.

TO THE EDITOR:—Toward the latter part of last August while driving one day, I stopped at a spring to take a drink, and found growing there a very peculiar blackberry bush. It seemed to be a very strong grower and was just loaded with the most delicious berries I have ever tasted. The flavor was a little different from the usual blackberry, but the most peculiar part about the bush was the leaves, of which I send you several. Please let me know



whether it is a blackberry or some other berry, and if so what the name of it is?—C. F., Chicago Park.

The leaves which you send are those of the Cut-leaved or Evergreen Blackberry (*Rubus laciniatus*). Bailey says this is probably a native of Europe, but that it flourishes in Hawaii and other Pacific islands, whence it has probably been introduced into Western United States. On account of the interest it has aroused in Oregon, it is sometimes known as the Oregon Everbearing Blackberry and has been introduced to the nursery trade under that name.

The Point of Doubt in the Artichoke.

TO THE EDITOR:—In a recent issue of the PACIFIC RURAL PRESS, dated November 14, I noticed a query and reply under the heading, "The Doubtful Artichoke." Why should there be any doubt regarding the food value of the artichoke? It is no new product, for it has been grown and fed for many years past, and it seems strange that no definite conclusions have been arrived at during all this time. Our experiment stations are constantly sending out bulletins giving values of different products, now why is it we have nothing definite relative to the artichoke? Two years ago I read an article in Prof. Wickson's book giving the yielding qualities of the artichoke, and I also read an article in Coburn's "Swine Husbandry" stating that a farmer had placed forty head of hogs on an acre of artichoke and had kept them there all winter, bringing them out in the spring in good condition. I took these statements as facts and not mere suppositions. I have an acre of artichokes and am feeding them now, but my hogs have a free access to alfalfa and also a feeding of Egyptian corn every day, so that I have no way of ascertaining the value of the artichoke, unless I experiment, and I cannot afford to do this with fancy thoroughbreds. I was not aware that the experimental stations depended on the farmer to settle the question of the value of products, for I had believed that we maintained these stations for the sole purpose of determining these matters for us, and if there are any bulletins on this subject I should be glad to obtain them.—SUBSCRIBER, Ceres.

You are laboring under a little misapprehension, or else our remarks were not clear enough. The food value of the artichoke was not in question. That has been determined to be about like a potato. The point which we referred to was why farmers usually stop growing artichokes for hogs, although their first impressions are usually favorable. Artichokes are continually grown in the experiment gardens and tubers are given away to planters who wish to try them. Why they are forsaken so soon usually must be learned from the growers' experience. The question is, Is the claim that perpetual hog feed can be had by planting artichokes true or an error? We conclude that it is an error, because we cannot find it realized in experience. You will soon be in shape to answer it and we shall be glad to have the answer for general edification.

Cream Cellar—Churning.

TO THE EDITOR:—Is the cellar a good place to set milk all the year round; does the dampness interfere with the raising of the cream or keeping qualities of the milk or would a room above ground be better? About what is the right temperature to have cream in order to churn quickly and make good butter.—A SUBSCRIBER, San Rafael.

A perfectly clean and well ventilated cellar is a good place for cream all the year round, except that in some parts of the State there may be too much moisture in the rainy season and a danger of mold. When that is the case, an upper room should be used during that period of the year. Be sure, however, you know the full meaning of "clean and well ventilated." Some people's views are a little hazy on those points. You must have an absence of "cellary" odor—no "closeness" or "mugginess" noticeable. Milk needs fresh, clean air. About the right temperature of cream for churning is 58° to 60° in summer and 60° to 62° in winter. Under certain conditions of cream, and when it contains considerable milk in it, it may churn well a degree or two lower.

Pruning Roses.

TO THE EDITOR:—Kindly give some hints about pruning roses—what wood to remove and what to retain and when to do it.—READER, Healdsburg.

Do it now. Remove all surplus shoots which are becoming old and save the strongest of the new growth. It is often desirable to cut back an old branch to the place where a strong new growth has broken out. The treatment of the new shoots is generally to cut back below the laterals and thus reduce the bush to four or five strong shoots about

2 feet in length. From these there will come a break of new laterals which will give you all the flowers and foliage you desire. The above applies of course to plants grown in common bush form. Standards are treated in about the same way except that everything below the head is removed and the branches arranged above that. Climbing roses need little shortening as a rule, but they do need more thinning of surplus shoots and removal of weak branches than they get. You cannot get high-class flowers without cutting back for new, strong wood and removing those growths which are getting old or are too thin or imperfectly matured to carry new growth.

Does the Phylloxera Cause Difficulties in Fermentation?

TO THE EDITOR:—On account of the difficulty my neighbors and myself have experienced in the fermentation of wines for the last five years, it occurred to me that the difficulty might be caused by the sick condition of the vines from the attack of phylloxera. Will you kindly inform me through your paper whether you consider this possible?—SUBSCRIBER, Calistoga.

It is not likely that the insect is to be held responsible. Its effect on the grapes might be toward reducing the sugar and increasing the acidity. Prof. Twight, the University viticultural expert, says: "The trouble in fermentations is generally due to three causes: Excess of sugar in must, and therefore of alcohol in wine; lack of acidity and carelessness in controlling the temperature of fermentation."

Sterilizing and Boiling.

TO THE EDITOR:—Please tell me a practical method for sterilizing barrels for pickling olives. Also the best way of boiling brine for olives.—M. B. H., San Francisco.

On a small scale, barrels can be cleansed and sterilized by using plenty of boiling water and caustic soda. If you wish to operate on a larger scale and have a steam boiler, take a pipe of live steam into the barrel, previously filled with water, and while heating add caustic soda at the rate of one pound to six gallons; then draw off this soda solution to another barrel and boil fresh water in the first. The cheapest way to boil brine is also the use of a steam jet. If you have no steam you will have to boil brine just as you would boil water in kitchen practice, or use a cauldron kettle over an open fire in the yard, or get a combined cauldron and stove beneath, which is handy and economical of fuel.

Not the True Jordan Almond.

TO THE EDITOR:—Some four years ago I procured from a leading horticulturist of this State what was represented to be a scion from the true Jordan almond. Noting several articles in back numbers of the PACIFIC RURAL PRESS concerning said almond not having been grown in this country until a date later than I have grown these, I send by this mail some of the nuts for identification. Are they the true Jordan or not?—T. D. M., San Jose.

They are not of the true Jordan type judging from recent importations. They are too short and broad—in fact, too much like the ordinary hard-shell almond. The Jordan is very long and narrow. The shell has, however, about the same color and hardness as the Jordan.

Products of the Bay Tree.

TO THE EDITOR:—Is there any use made, or can there be made, of the nuts which fall in such abundance at this time of the year from bay or pepper trees, as they are called? Are they of any commercial value, and, if so, for what purpose are they utilized? Is bay oil extracted from them or from the leaves, and, if so, how is it done?—FAITHFUL SUBSCRIBER, Guerneville.

The nuts of the California laurel or bay tree are only useful for seed purposes, so far as we know. Oil could be extracted by a simple distilling process—forcing the steam through the crushed nuts and condensing it with a worm as it emerges from the tight receptacle in which the nuts are placed. The California laurel is not the source of the bay oil of commerce. So far as we know, nothing is done with the tree or its products in the line indicated by our correspondent.

Not the San Jose Scale.

TO THE EDITOR:—I send you under another cover a Bellefleur apple. What are the spots on it? I have treated it as San Jose scale with lime, salt and sulphur with good results for years.—SUBSCRIBER, Alton.

Our correspondent refers to the reddish spots

which one frequently finds on Bellefleurs. They closely resemble the mark of the San Jose scale, but they are not in this case. The mark is an enlargement and reddening of the lenticels or small corky spots which are natural to the apple, and in the Bellefleur are more conspicuous than on many other apples. What causes this enlargement and reddening of the spots, which should be of light buff color, we do not know. It has never been determined. It may be the work of some organism entering the lenticel. It is not the San Jose scale, however.

No Relation to the Sultana.

TO THE EDITOR:—I am sending you a small sample of raisin which grew on a sucker from the root of a Sultana vine. They are much larger than the ordinary Sultana, and appear to me to be different in flavor. Is it a new variety of grape, and do you think it worth propagating?—JOSEPH DICKAS, Kern county.

It is less valuable than a Sultana because it is simply a medium sized raisin with a tough skin and plenty of seeds in it. Unless you actually have demonstrated that the shoot came from a Sultana root we should guess that it came from some other source. We cannot say how good the fruit may have been as a grape, but as a raisin it is simply ordinary and not worth propagating.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 23, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Generally cloudy, warm weather prevailed during the week, with generous rains in all sections. The rainfall averaged about 3 inches in the northern portion of the valley and 2 inches in the southern. The soil is in fine condition, and plowing and seeding are in progress. The grass has started nicely and green feed will soon be abundant. Early sown grain is coming up. Orchardists are busy pruning. Oranges are ripening rapidly, and large shipments are being made from Oroville and Palermo; prospects are good for a large crop. Stock are improving. The streams have risen considerably during the week, but have caused no damage.

Coast and Bay Sections.

The weather during the week was generally cloudy and warm, with generous rains in the bay and north coast sections, and light showers and frequent fogs on the south coast. Severe frosts occurred on the 16th, but caused no damage. The ground in the central and southern portions is in good condition for plowing, but the heavy rains in the north made the soil too wet to work. Early sown grain is coming up nicely. Grass has made rapid growth and green feed will soon be plentiful. Stock are in good condition. The celery crop in the vicinity of Mayfield is reported excellent, and large shipments are being made. Crops are about all harvested. Cloverdale oranges are in good condition.

San Joaquin Valley.

Generally cloudy, warm weather prevailed during the week with generous rain in the northern portion of the valley, gradually diminishing to light showers in the southern portion. The rain was very badly needed to soften the ground for plowing, and to start the new grass. Heavy snow is reported from the mountains east of Tulare. Plowing and sowing are progressing as rapidly as the weather and the condition of the ground will permit. Dry feed is scarce, but new grass will soon be plentiful. The grape harvest is over. Dried fruit is being shipped to the packing houses in large quantities. Olives are making good progress, and a fair crop is promised. Orange picking and shipping continue. A heavy frost occurred on the 16th in many sections, but caused no damage.

Southern California.

The weather during the past week has been clear and pleasant. The walnut crop has been harvested, and the last carload was shipped east from Anaheim on the 19th. The crop was light but the quality excellent. The raisin crop has been gathered.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Tuesday, November 24, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka .....	3.26	13.89	13.13	9.78	64	36
Red Bluff .....	5.26	8.70	10.08	4.63	68	40
Sacramento .....	1.68	2.52	3.69	3.29	68	44
San Francisco .....	2.84	4.41	3.68	4.82	64	50
Fresno .....	.46	.64	2.67	1.65	74	38
Independence .....	.00	T	.79	1.02	68	34
San Luis Obispo .....	.36	.44	3.52	3.86	80	50
Los Angeles .....	.00	.43	2.47	1.96	80	50
San Diego .....	.00	.06	2.50	1.04	74	48
Yuma .....	.00	.66	.63	1.06	82	42



## HORTICULTURE.

### Fruit Gardens in California.

By PROF. E. J. WICKSON of the University of California at the recent meeting of the American Pomological Society in Boston.

In complying with the request that I prepare a brief sketch of the "fruit gardens" of California as comprising the fruit growing by amateurs as contrasted with commercial fruit growing, I am at a loss to know what is just the accepted meaning of the term fruit garden, and am obliged to advance a definition of my own.

My notion of a fruit garden is a limited area of good soil; (1) strictly and strongly enclosed for the privacy of the owner, his family and friends, and for the protection of the products against trespassers; (2) planted with a large number of fruit varieties growing as far as possible upon shrubs, vines and trees of dwarf habit; (3) all fruiting plants receiving intensive and expensive culture in the lines of soil improvement and enrichment, moisture supply and protection against unfavorable winds and temperatures; (4) administered by an amateur by his own labor or by his outlay for a professional gardener; (5) the whole projected and maintained without idea of commercial profit.

If this notion of fruit gardens be tenable, my writing of them may be very brief indeed, for, to the best of my knowledge, there is not such an establishment in California.

**THE MISSION FRUIT GARDENS.**—There was something in California a century ago which approached nearer to a realization of this definition of a fruit garden than anything now existing. The old Catholic Missions, of which there were fifteen or more scattered along the coast through about 400 miles of distance, had, for the most part, gardens behind high adobe walls to screen the padres and their fruit from intrusion. These gardens contained several kinds of fruits, the trees were fertilized and irrigated, the work was largely done by the owners, and there was no commercial motive in the gardens—though some of the missions had outside vineyards of considerable area in which they used the labor of the Indians they tamed, and from which they exported a wine product to Old Mexico. But, though the old Mission fruit gardens furnished facilities for retirement and refreshment, they did not involve sufficiently high horticultural art to meet the requirements of a modern conception of fruit gardening. The varieties were mostly seedlings, except that the fig, the grape and the olive were of the same type at all the establishments, owing, no doubt, to propagation by cuttings. The culture was rude and the gardening policy generally vastly inferior to that prevailing in Europe at the same date. The Mission gardens reproduced the old Spanish garden of the seventeenth century, when the missionary efforts in lower California began, and maintained this type unaffected by the improvements which later years brought to its European prototypes.

Even the old Mission gardens, such as they were, had passed their best estate before the American occupation. The decline of many of them began when the Mission properties were secularized by the Mexican Government in 1834, though there were a few instances in which they escaped ruin and delighted with their fruits the American explorers who preceded the inrush of the gold seekers of 1849.

**PIONEER AMERICAN FRUIT GROWING.**—It is interesting that the Americans began fruit growing in California upon the garden plan, rather than upon the orchard plan. In the early 50's there were fruit gardens, in which dwarf trees were largely used, near the larger towns of that early day. This apparently arose from the misconception of the necessities of the situation. The Americans proceeded at first upon the supposition that all fruit trees and vines required irrigation to carry them through the long, dry season, no matter what the depth and character of the soil and the amount of the preceding winter's rainfall. The operations at the missions encouraged this belief, and it was accepted as settled that the greatest number of trees in the smallest possible space could be irrigated most cheaply and successfully. Even when it was shown that constant surface cultivation during the dry season would conserve enough moisture in the subsoil to sustain growth and fruit bearing of deciduous trees and vines, the thought remained that dwarf trees set close together would be the best even under this new policy. But this conception was speedily forsaken, and the policy of growing low-standard trees on free stocks, sufficiently separate to allow each a good share of air space and moist subsoil, was accepted as early as 1856, and has prevailed so strongly since that time that a California type of low-standard fruit tree may be claimed to exist, and to exist so largely as to produce an impression of striking uniformity upon horticultural visitors from all parts of the world. But even the fruit gardens of the early American settlers did not answer the requirements of the notion of a fruit garden laid down at the beginning of this paper. They were not closed in by garden walls.

The owner could get all the meditation he needed without a wall, and he could protect his property more cheaply with a dog and gun. Nor was the ruling motive in a fruit garden present, for the gardener enjoyed more the thought of the dollar he could get than of the beauty of the peach which commanded it. In fact, at the very beginning the commercial idea in fruit growing asserted itself among the fruit American settlers and it has never relaxed its hold.

**SITTER'S LANDSCAPE FRUIT GARDEN.**—Perhaps the nearest approach to our ideal of a fruit garden was attained in the plantations of the pioneer, General Sutter, who set out on the banks of the Feather river in the Sacramento valley a "unique landscape garden, nearly every article in which is productive of fruit." An appreciative contemporary writer remarked that "the arrangement of the fruit trees is peculiar, a large portion of them being set on either side of the broad avenues opening through the extensive grounds in various directions, imparting to the whole an air of picturesque beauty seldom seen." What would have come of this if the planter's fortunes had not failed is hard to say, but it was clear to others at the time that such an arrangement, which gave large areas of roadways incapable of cultivation between the trees, endangered their thrift because of loss of moisture, or, if this were furnished by irrigation, the grower would be handicapped by the cost of it.

**SMALL ORCHARDS NOT GARDENS.**—And so the element of the picturesque passed out of our fruit growing nearly as soon as it entered, and the orchard plan of trees or vines equally divided amongst themselves the area of well cultivated soil, with the least possible allowance for special roadways or avenues, was chosen early and still rules. To stir every inch of the surface, and to do it well at the least cost, banishes permanent roadways from the areas given to the trees, and strikes down all barriers surrounding these areas, if possible, so as to admit of free use of the horse in cultivation. The result is that the fruit plantings, even on suburban places, are small orchards, rather than gardens, and orchard policies prevail with them. Even on our finest places, where the areas given to ornamental trees and shrubs and to lawns may be laid out upon rational garden and park designs, the fruit trees are nearly always carried beyond them and planted in orchard form. Then, too, the idea of doing a little business in fruit is so attractive that the orchard usually exceeds in area all home needs, and its varieties are chosen largely upon commercial considerations.

**THE FRUIT GARDENS WILL COME.**—I return, then, at closing to the doubt spoken at the beginning, as to whether, strictly speaking, there is such a thing as a fruit garden in California, except in the back yards of suburban homes, and in such cases city activities so engross the owners that they cannot attain high grade as amateurs. I am aware that we have a few people with ample means and leisure with discriminating tastes and with enthusiastic delight in their outdoor possessions and avocations. I believe we shall have more of this class as the years go on, and that the wonderful possibilities for amateur successes and delights, which a combination of temperate and semi-tropical conditions affords, will in due time, in the next generation, perhaps, give us fruit gardens which it will be worth while to cross a continent to see.

### How a California Woman Grows Strawberries.

Mr. A. I. Root, the well-known apiary writer and expert, attended the Los Angeles convention and then did some visiting in southern California. One of his visits was made upon Mr. G. M. Hawley, who lives at El Cajon, a beautiful valley about 14 miles out of San Diego. On our way out, writes Mr. Root, Mr. Hawley said I must stop long enough to see a neighbor of his, a woman who for several years worked in his father's family as a hired girl. When pretty well along in life she took a notion to grow strawberries; and right out in the desert, on a little piece of ground in a locality where nobody else thought of growing strawberries, she had one of the finest strawberry ranches I ever saw anywhere. It looked funny to see a little woman, well along in life, directing a lot of men how to do their work. The berries were the variety known as the Arizona Ever-bearing. You may remember this variety was distributed quite extensively here in the States, but never made much of a mark here in the East. With the mild climate of southern California, and plenty of water for irrigation, it was just doing wonders. Perhaps not as many berries lay ripening around the hills as we often see here in Ohio; but this woman picks berries and carries them to market every day in the year from February till November. For size, perfect color all over, and beauty of shape, I think I never saw any finer ones. I was invited to help myself freely, and I can certify that they are not lacking in quality. Friend Hawley informed me that she had probably lost a little money by agreeing to let a certain man in San Diego have the whole crop at a uniform price of 10 cents a box. This box holds something between a pint and a quart. The reason why she lost money is that she succeeded in growing larger and finer berries than anybody expected to

get. Yes, they were larger and finer than even she expected to get. By constant application she had become an expert; and she could beat anybody else in that region in growing strawberries. The men who worked for her saw exactly how she did it; but I very much doubt whether those same men could start a strawberry patch of their own, and manage it as she does. This woman is, perhaps, uneducated, and she does not speak our language very well; but it was as much of a pleasure to take her by the hand, and raise my hat to her as I spoke, as to meet and talk with some of the greatest and most accomplished ladies of our land. In middle life, by some misfortune, if I am correct, she was obliged to shoulder a considerable debt. This she had all paid off honorably; had paid for her land, and is now getting in comfortable circumstances financially.

## THE APIARY.

### The Introduction of Honey Bees to California.

(CONTINUED FROM LAST WEEK.)

By MR. J. S. HARRISON, at the Los Angeles convention of the National Bee Keepers' Association.

I made four observatory hives and one or two oval hives of the same pattern, which I still use. There at Marysville it attracted a very great deal of attention. Then, I think it was the next year there was a large agricultural hall built in Sacramento, and I exhibited there. I exhibited a full set of observatory hives, showing the queens in all stages of growth, and the conditions of the bee, illustrating them, and my exhibit was placed in the basement, where all agricultural products were placed. I had a very fine observatory hive, which I have yet, but it has not been used for a great many years, and the managers of the fair came to me and asked my permission to locate that hive according to their ideas. I, of course, granted it. It was a gratification to me, and they took it upstairs. There was a fountain in front of the speaker's stand, and they located it right in front of the fountain. During the evening they had to have a policeman there to keep the way clear so that the visitors could pass and see that hive. It was acknowledged to be the most attractive one-item exhibit at the fair. Of course, I was awarded the highest premiums that their rules would allow, and those exhibits, and the success I met with, started quite a furore in bee keeping, and it has kept on.

It cost me to get those 110 colonies from Pennsylvania in the neighborhood of \$1800. My book was published in 1861. I wrote it in Sacramento. It is out of print. They are scattered over California, a good many of them.

**SHIPPING HONEY.**—I sent the first case of comb honey that ever went across the continent. I put it in the first car of green fruit that was ever shipped from Sacramento, or from California. That earload went to Chicago, and that case was the first case of California honey ever sold East.

We didn't send earloads until we introduced bee keeping down in San Diego. I had a friend down there, a Mr. Pardee—a relative, I suppose, of our present Governor. He had made some investigation down there as to the flora of San Diego, and he was satisfied that bees would do well. I had a friend, Mr. R. G. Clark, who lives in San Diego. He was not engaged then in any enterprise, and, his brother having bought bees, and having made a success of it, and having learned from his brother, they conceived the idea of Mr. Clark going down there with his bees. We took 110 colonies and landed them in San Diego on November 28, 1869. Those were the first bees landed in San Diego.

I secured Italians when I went to San Diego—I think from Mr. Quinby. Then I got others in 1865. We landed those bees down there in San Diego in 1869, and Mr. Clark and I were in partnership four years there, and in that time established four apiaries, and when our time expired he took two and I took two. He ran his two apiaries for the first season afterward, which was the year 1874, which was the best season we ever had. Then he sold out and took the money, which was quite a considerable sum, that he made during that time, and planted the first vineyard and eucalyptus grove ever planted in this valley, and to which is due the first raisins ever raised in San Diego county, a fact which, I think, may have been lost sight of. He is the pioneer raisin grower in San Diego county.

The greatest number of colonies we ever kept in one place was 600. They yielded an average of over 150 pounds of comb honey per colony in 1874. That was the Honey Springs apiary, near Lyon's Peak, in San Diego county. I had some apiaries there that had 400 or 500 colonies. I think I had as many as 500 colonies in the Sweet Water apiary, which I still own, and which is the last of my apiaries. I think the greatest number I had at any one time was about 3750 colonies, divided around in twelve apiaries.

I can not give you the amount of the largest crop in any one year, but it was considerably over 100,000 pounds.

The first earload was sold to C. O. Perrine of Chicago for 27 cents a pound, delivered in Chicago. I



reserved, however, a few cases—perhaps twenty—and placed them in the hands of Graff & Co., to be sold as an experiment, and I think they realized 28 cents. The freight rate, I think, was about 3 cents a pound gross on the carload. That was two-pound sections. I have always produced two-pound sections, and when I have ceased to do that I shall have ceased to produce any honey.

**FOUL BROOD.**—I want to give you a little bit of history of the introduction of foul brood into California, and my experience with it. In 1858 a man named Wheaton came to my place and visited me a number of times under pretense of buying bees, but, as I suspected at the time, and as was afterwards proved, simply to get the secrets of my success in the handling of bees. However, late in the fall of 1858 he arrived at Sacramento with quite a large number of bees, somewhere from 80 to 100 colonies. I inquired where he got them. He said he got them from Quinby—out of Mr. Quinby's winter quarters.

He placed them within  $\frac{1}{2}$  mile of my apiary, a great many of them in bad condition. I did not know anything of foul brood then, for we did not have any in western Pennsylvania, and I supposed foul brood was really chilled brood. He complained that my bees were robbing his. I went to make an examination, and remembered what I had read of Mr. Quinby's writings about the disease, and recognized what was the matter. That disease was imparted to my apiary, and altogether I think I destroyed somewhere from 60 to 90 colonies, because I applied heroic treatment—burned them up, hives, honey and all. But even that failed to eradicate it, but I kept at it for two or three years, until I got it killed.

But, fortunately for me, I had established another apiary 2 or 3 miles from my home apiary, out of reach of these infected bees. I had sold 250 colonies, perhaps, to various parts of the country, and as soon as I discovered the presence of this disease in the State I published an article in a San Francisco agricultural paper, warning my customers of what had transpired, and warning them to beware of these diseased bees, for it would prove disastrous to their interests. The result was a paper controversy between Mr. Wheaton and myself, and some others joined in. They claimed I had no right to make public the fact of the presence of the disease. They did not deny that it was present, but claimed I had no right to injure their enterprise. I claimed I had a right. Mr. Wheaton finally brought his bees down to Los Angeles, and to him you are indebted for the trouble you have, and always will have with you. For you will never succeed in obliterating it, from the fact the bees are in the rocks, in cavities, and every place else where the disease can be rooted. So you can only succeed in keeping it down as well as you can—only palliate what you can not cure.

## THE POULTRY YARD.

### Hints on Squab Raising.

From a forthcoming Farmers' Bulletin of the U. S. Department of Agriculture, by W. E. Rice of New Jersey.

Care must be taken not to inbreed. Under no circumstances permit nest mates to breed. If they should mate, they must be separated until a new mate is chosen by each.

When increasing stock it is a good plan to get a few pairs of mated Homers from a different source, as this may afford an excellent means of bringing in a different strain of blood.

Do not buy any crossbred birds if possible to avoid it, unless you know exactly what you are getting. If desirous of increasing the flock, when it is impossible to procure straight Homers, the next best plan is to get some selected Dragoons of pure blood and mate with young straight Homers whose records have been kept as directed. Such crossing ought to give fair results. The offspring of these birds may be mated with full-blooded Homers, making squabs of three-fourths Homers and one-fourth Dragoon blood. Squabs from birds of half blood should not be mated with each other, but with full-blood mates as directed. Three-quarter blood squabs will be a little larger than straight Homers, and will be ready for market almost as soon. In making this cross, however, much care must be exercised to have very carefully selected Dragoons with good squab producing records.

**FEEDS AND FEEDING.**—Though the houses may be well constructed and the birds well selected and properly mated, no success can be expected unless proper kinds of feeds are procured and the birds are regularly fed. While it is true that some breeders have had fair success for a while by feeding only cracked corn and wheat, long continued feeding on these two staples alone invariably fails to produce as good squabs or as many as when a further variety of grains is fed. In their free state, pigeons can select a variety of grains, avoiding one kind and choosing another, as their appetites dictate; but when they are kept in a small inclosure, they must, of course, take what the breeder gives them. Hence, it becomes highly important that the breeder have good

judgment as to the kinds and quality of food to set before them, and that to have interest enough in his flock and to avoid stinting the quantity, or feeding too largely of one kind because its price happens to be low.

**THE FEED ROOM.**—A room should be set apart for a storeroom. It should be supplied with a feed bin divided into the proper number of sections to hold each variety of feed used; or, instead of such feed bin, small barrels with lids may be used.

In these receptacles should be kept a generous supply of sifted cracked corn, Canada peas, wheat, German millet, Kaffir corn and hemp. These are the six principal feeds.

On the floor of each pen keep about a peck of clean sand evenly spread. Procure three boxes about the size of small cigar boxes; fill one about one-third full of fine table salt, the second with cracked oyster shells, pigeon size, and the third with ground charcoal, about as fine as ground coffee. These three substances are very essential to the health of pigeons. Clean out and replenish each of these boxes weekly. Do not fail to keep the salt box filled and before them all the time, for the health of pigeons demands it.

**FEEDING TROUGHS.**—In each pen is placed a feeding trough, made of inch stuff, 10 inches wide, 4 feet long, and with sides  $1\frac{1}{2}$  inch high. This trough is placed in the middle of the pen to avoid feeding in the open fly, where the birds and grain would both be subject to the weather. In feeding, a tin pail holding a peck is convenient, as is also a grocer's tin scoop, which holds about three pints.

**RATIONS.**—For the morning ration give equal parts of cracked corn, wheat and peas, well mixed, using two scoopsful of the mixture to each pen of fifty pairs of birds, and taking good care to see that all droppings are cleaned out of the troughs before feed is put in.

The ration for the afternoon is composed of cracked corn, Kaffir corn, millet and peas, in equal parts.

If at any feeding time any of the previous supply has not been used, reduce the quantity. If, however, the troughs should be entirely bare, slightly increase the quantity. When a number of squabs are in the nests, the birds will feed more freely and need a more liberal supply.

On Thursdays and Sundays use hemp in the ration instead of millet. Care must be taken that the birds do not get this feed too often, nor in too large quantity, as it is very fattening, and, if fed in excess, has a tendency to give the birds vertigo. For the same reason caution must be used in feeding millet. A small quantity of rice may be fed once a week with advantage.

**TIME OF FEEDING.**—Regularity in time of feeding should be strictly observed. The morning feed in summer should be given at 6:30 and in the winter at 7 or 7:30. The afternoon ration should be given at 4 o'clock in the summer and in the winter. The afternoon hours are quite important, and must be adhered to in order that the birds may have ample opportunity to fill themselves and feed their young before nightfall.

Be sure to attend to the feeding yourself. Always go alone; never permit any one to accompany you, for birds are often very timid of strangers, and chilled eggs may result if strangers should remain in the fly at feeding time. Go in quietly, making no noise or sudden movements; and, after the feed is placed in the trough, always leave the birds alone for a full hour, that they may be absolutely uninterrupted in feeding themselves and the squabs.

Never feed out of doors under any circumstances in either summer or winter. Besides the loss occasioned by sparrows taking advantage of the opportunity to help themselves, in summer the heavy dews and hot nights will cause any feed left over to sour, and in winter storms will prevent birds from feeding.

**A FEW CAUTIONS.**—Cracked corn must be sifted, for fine meal can not be used by the birds, and in hot, muggy weather it will sour over night, necessitating extra trouble in cleaning out the troughs.

Be sure that the grain is sound and strictly first-class. Do not feed new wheat until it is thoroughly dry, usually not sooner than October 1, and do not feed new corn until Christmas. Especially avoid musty grain.

Because one of the feeds mentioned may sometimes be quite cheap, do not be tempted to feed largely of it, thinking to save money thereby. This practice so often causes trouble that caution is urged in departing from the proportions named.

Too much wheat in the ration will almost always cause looseness of bowels and make the squabs skinny and dark.

Birds need a variety of feed, and it would be as injudicious and disastrous to feed exclusively on peas, a high-priced food, as on wheat alone or some other cheap food.

**HOW THE SQUABS ARE FED.**—Some wonder why squabs die in the nest or get on the floor or do not fatten up properly. Very frequently the reason is simple, because the old birds are not properly fed. We should constantly bear in mind that a squab is very different from a chick. A newly hatched chick can run about and help itself to feed and water. The

squab, on the other hand, is utterly helpless at birth; it is unable to walk and must be fed in the nest with whatever the parent bird brings to it. For about five days nature provides a special food commonly called "pigeon milk," a creamy substance contained in the crops of the pigeons and which they have the power to eject from their mouths into the mouths of their tender young. After a few days of such feeding the squab is fed on such grains as the pigeon gets, and by the same process of transfer from the parent's mouth to its own; hence, it is essential that proper food be given the pigeons.

**COST OF FEEDING.**—The cost of feeding the kinds and quantities of grain recommended will be of interest to novices. With wheat at 80 cents a bushel, sifted cracked corn at \$1 per hundredweight, Kaffir corn at 90 cents per bushel, millet at 90 cents, hemp at \$1.30, and peas at \$1.10 per bushel, the cost will be about one-seventh of a cent a day for each bird, or about 52 cents a year. Feeding at such cost, I have never failed to realize an annual net return of \$1.50 per pair net, but I was never able to secure such returns when feeding steadily on a wheat and corn diet.

**WATERING.**—A generous supply of fresh, pure water for drinking purposes should be supplied. The flock should be watered each morning before the supply of feed is given. The water supply should be near the feeding troughs. Two-gallon stone foundations may be used in summer and galvanized iron ones in winter. These fountains are placed on the floors of the pens, one to each pen being sufficient. They should be thoroughly cleaned out each morning and filled with pure, fresh water, which will last all day, although during the heated spell of summer it is better to put in a fresh supply of water before the afternoon feeding. For thoroughness in cleaning the fountains, it is well to use a small brush. About twice a week place a piece of stone lime about the size of a hickory nut in each fountain. At least three times a month the fountain should be disinfected by using ten drops of carbolic acid to a two-gallon fountain, leaving the acid in the water for the birds to drink that day, as it will do them no harm.

**OTHER DETAILS OF MANAGEMENT.**—No success can be achieved in squab raising even with the best of houses, fine, well-mated stock and proper food, unless the flock is given good care and management.

Birds should always have a supply of water in which to bathe. Bath tubs made of galvanized iron or zinc, 3 inches deep, and about 30 inches square, and set in an open boxing of inch stuff, are placed in the end of the fly opposite the coop. These furnish convenient bathing places for the birds, which are much used and enjoyed by them. Some use these bath tabs instead of fountains for the supply of drinking water; but when a bird bathes a milky scum appears on the surface of the water and it soon becomes foul, and unless changed several times daily is surely unfit for drinking purposes. After the birds are through bathing the tubs should be emptied and turned upside down.

An excellent way to manage the water question is to provide a trough to run through the flies across the ends. This trough can be made of inch stuff, 12 inches wide and 3 inches high; and, when city water or other running supply is available, a small, steady stream can be allowed to flow in at one end and out at the other, which should be slightly lower to cause a current. The escaping water should empty into a barrel sunk so as to bring the top level with the ground.

**WHITEWASHING.**—The first requisite is that the new house should be thoroughly lime-washed inside before occupancy. Carbolic acid should be used in the preparation of the wash in the ration of a teaspoonful of the acid to two gallons of wash. The crude, dark acid is as good for this purpose as the refined article, and costs much less. The acid serves to repel lice. This wash should be thoroughly spread over the entire surface of the inside of a new coop, and this whitewashing should be repeated once a year thereafter. Besides adding to the appearance of the house and making it lighter, it sweetens and freshens the interior and destroys any lice or mites. To make the application more effective, the wash should be carefully worked into the corners and crevices.

**CLEANING.**—Some breeders do not clean out nest boxes and pens more than twice a year, and often only when they need some manure for gardening operations. It is a very dangerous practice to allow the droppings to accumulate, and, in protracted damp weather, a decided menace to health. I invariably clean all my houses regularly once a week. I take out the movable bottoms of the nest boxes, and with a large butcher knife or steel scraper remove all excrement, letting it fall to the floor of the pen. If a nest box contains young squabs or eggs or a freshly made nest, it is not disturbed, but is left to take its turn at a subsequent cleaning. After all nest boxes are well cleaned, a spade is used to loosen the droppings on the floor, and all are shoveled into a wheelbarrow in the passageway and the floor is swept clean.

The flies are cleaned out from four to six times a year. I use about 4 inches of clean sand in the flies, the sand being sifted and furnishing a soft floor on which the birds alight. With this there is no danger of the birds laming themselves or breaking their



legs, and the sand is always free from mud. A pinch of air-slacked, sifted lime (carbulated by the addition of a scant teacup of crude carbonic acid to a peck of lime) is scattered in each nest, a peck of dry sand is scattered on the floor, and the coop is ready for another week's run.

Objection is made by some breeders that the weekly cleaning out unnecessarily disturbs the birds, compelling the timid ones to leave their nests, causing the eggs to get chilled, etc. It is certainly possible to make a great uproar in the coop during the cleaning, but this I never permit. The cleaner should enter the pen quietly, making no violent or sudden motions, and dispatch the work as quickly as possible. The birds should be so treated that, when it is necessary to enter their quarters, they know that no harm is intended. In this weekly cleaning the supply of salt, oyster shells and charcoal should be renewed and a fresh supply of tobacco stems, cut into 6-inch lengths, put into each pen.

**LIGHT-WEIGHT SQUABS.**—If squabs at the proper age for market are of light weight—six and one-half or seven pounds to the dozen—they are not profitable, for they will always bring lower prices when sent to market. Such squabs indicate either that the parent birds are poor feeders or that the breeder has fed improperly. If a record has been carefully kept, as suggested, an inspection of it will show whether a particular pair of birds regularly produce poor squabs. If so, and the food given has been suitable in quantity and variety, this pair of birds should be disposed of at once. During the moulting season the squabs may be expected to be less plump than when the birds have less strain on them. These light-weight squabs cut down the profits more than some think. I have frequently seen a lot of nearly 100 sold for \$4.25 per dozen straight, while another lot sent at the same time and to the same buyer has brought \$4.25 for some, \$4 for others, and \$3.50 and even as low as \$1.75, for others. Frequently this difference is directly traceable to the kind of feed given.

**TRANSFERRING A SQUAB.**—Sometimes, even with right feeding, a squab will be observed to be of light weight, being much smaller than its nest mate. If there is in the pigeon house a nest with only one young squab of the same size as the weakling, it is a good practice to transfer the latter to this nest, when the parents of the younger squab will feed both, usually with good results. It must be remembered, however, that no change of this kind should be made until after the squab is a week old, or during the time the parents are furnishing the "pigeon milk."

## THE VINEYARD.

### Notes on the California Vine Disease.

TO THE EDITOR:—I beg leave to call the attention of those interested in vineyards to a few points of importance concerning the California vine disease:

1. Like phylloxera, mildew and other diseases of the grape vine, its speedy development, more or less, is governed by certain conditions. These are climatic and soil conditions of a locality, age, variety and bearing of a vine.
2. The use of grafting stocks of American origin also either assists in its control or makes it more difficult.
3. All riparian and rupestris, including Rupestris St. George, intensify the trouble.
4. The complete control of the disease through proper grafting stocks will be possible only in some favored localities of California.
5. The top of a vine is of as much or more importance in regard to the disease as its root.
6. Vines being grafted on Lenoir, and having remained free from attack for five or six years (as found out by the Government experts), or even ten years, is no test whatever.
7. Champini is probably as resistant to the disease as Lenoir, depending on some of the conditions mentioned above. Still some vines grafted on the former have succumbed in the Santa Clara valley, and others will follow suit in course of time.
8. It is well known that any slight injury to the roots of a vine or tree causes heavier bearing, which is an augmenting factor to the disease. This makes Lenoir and Champini unavailable as grafting stocks, for they are too low resistant against phylloxera to be immune from injury caused by the insect attacking their roots.

H. Hoops.

Wrights, Nov. 22.

### Getting at a Contract Price.

President Percy Morgan, of the California Wine Association, says the Calistogian, held a conference in Healdsburg on Wednesday of last week with a committee recently appointed by the Geyserville grape growers and wine men, relative to a proposition submitted by the latter. The Geyserville residents recently organized a corporation and started out with the intention of erecting a co-operative winery there to handle their grape crops in future years. This was the result of the low prices offered by the Association for grapes of the last vintage and

the manner of payments. When this became known the Association opened negotiations with them.

A meeting was held at Geyserville last Friday, at which time the committee was appointed to confer with President Morgan. The proposition submitted by the growers is that the Association take the crops of members for three years, pay \$20 per ton, make payments on delivery and abolish the sugar tests in grapes entirely. It is understood that at the conference with the committee President Morgan asked modifications of certain portions of the proposition, and the committee will report to the growers at a mass meeting to be held shortly.

One of the portions of the proposition to be modified will be the sugar test, as the Association could hardly agree to that clause. Many of the growers would take advantage of that section and haul in green grapes simply to get them in before the rains.

## THE VETERINARIAN.

### Answers to Queries.

By E. J. CREELEY, D. V. S., Dean of San Francisco Veterinarian College, 510 Golden Gate Ave.

#### FOR A SORE TEAT.

TO THE EDITOR:—Kindly inform me the cause and remedy for clots of blood or lumps passing out when milking a cow. Fed clover, alfalfa, etc., stabled and seems in very good condition.—SUBSCRIBER, Payette, Idaho.

It is an affection of the teat. Take hydrogen peroxide, 4 oz.; tincture chloride of iron, 4 drachms; oil of cassia, 1 drachm; dilute alcohol so as to make 12 oz. Inject one tablespoonful, diluted with one-half water, two times daily.

#### DIRT EATING CAUSES ACUTE INDIGESTION.

TO THE EDITOR:—We have a dog we value much who got sick over three months ago. He just eats enough to keep alive, is all hide and bones and can hardly walk any more. He is always eating gravel and dirt and drinking water. First, when sickness started, after eating a little he would always vomit, but does not do so now. One queer thing at first, he was always shaking his head, as if something was sticking in his ears, and now he appears to be hard of hearing. His hair has been falling out a good deal—not in patches, but thinning. Otherwise he is lively yet, his eyes are bright and he carries his tail high. We have always fed him middlings, with bread and table scraps.—SUBSCRIBER, Wrights.

Eating gravel and dirt is an aberration of the appetite caused by a craving of the system for something it lacks. It is often seen in old animals used for breeding purposes, or where there is something lacking in the soil. From eating the filth, dirt and foreign substances acute indigestion results—in fact, all the secretory organs along the alimentary tract are incapable of performing their functions properly; hence the poor condition. The shaking of the head and deafness is an entirely separate condition, caused from eanker of the ear.

Treatment: Give a good dose of calomel, say, 2 grains; follow one hour later with six tablespoonfuls of castor oil. Give nothing whatever to eat for twelve hours. Later, give 1 drachm of powdered kossu; one hour later, the white of one egg; one hour later, a small meal. Have him wear a muzzle constantly, so he can not pick up foreign substances, and give the following prescription:

Bismuth subnitrate, 2 drachms; nux vomica, 12 grains; po. pepsine, 1 drachm; soda salicylate, 1 drachm. Mix and make twelve powders and give two daily.

Cod liver oil and rich food is specially indicated.

### Milk Fever of the Cow.

Milk fever, technically called parturient paresis, or parturient apoplexy, is characterized by the following symptoms:

The newly calved, adult cow, that has had an easy labor and "cleaned" promptly, suddenly becomes restless, sticks her tongue out, refuses feed, steps up and down with her hind feet, gets a "kink" in her neck, "wabbles" when exercised, and finally goes down paralyzed, with milk, urine and manure suppressed, tucks her head into her side, snores loudly, becomes bloated, unconscious, and lies stretched out upon her side until death occurs in from three hours to three days. Some cows show delirium, struggle and pound the head upon the ground. The majority of cases, however, are quiet and have no fever; the temperature is more often below normal.

CAUSE.—The exact cause of milk fever has not been determined, but Dr. J. Schmidt, a Danish veterinarian, points out that the disease may be due to poisonous products derived from tissue changes taking place in the udder, while experience teaches that certain conditions apparently render a cow of the proper age peculiarly susceptible. A few of these aggravating causes are: Hot, badly ventilated, filthy stables; heavy feeding upon grain foods (concentrates) right up to the time of calving; lack of exercise; excessive use of succulent foods; sudden plethora, induced by new grass in spring; heredity;

immediate and complete removal of the first milk produced after calving, or immediate removal of the new-born calf.

**NATURAL PREVENTION.**—It is safe to assert that the disease may be absolutely prevented by the adoption of the following simple, natural methods: Start six weeks prior to calving and feed cow upon dry hay, bran mash and a little flaxseed meal, but no corn, cornmeal, shorts, middlings, oatmeal, gluten meal, malt sprouts or any similar concentrate. One month from calving increase the amount of flaxseed meal mixed in the bran mashes to insure keeping the bowels freely open. If there is a tendency to constipation, despite the increased amount of meal, dissolve two ounces of Epsom salts in the mash or drinking water once or twice daily as required. One week before calving double the amount of oil meal daily, and give at calving, if the cow is constive, one pound of Epsom salts, one ounce of ground ginger root and one ounce of saltpetre with a cupful of molasses in two quarts of warm water, at one dose, slowly and carefully from a long-necked bottle. During all this time the cow is to be given ample out-door exercise daily to keep her blood in circulation, all the organs in the body in proper order and her muscles full and strong.

This method of preventive treatment applies equally to the susceptible cow whose calf is expected when green grass is in "spring flush." She is to be kept in a dry yard and there to have the same food and care given the cow about to calve prior to the advent of grass. When calf comes allow it to suckle for three days, or draw off some of the milk frequently by hand; do not milk clean at first.

**MEDICINAL PREVENTION.**—Unless the cow has suffered a previous attack of the disease, predisposing her to a second attack and necessitating larger doses of medicine, it will be found safe and sufficient in average cases to give her as a preventive one-half drachm of iodide of potash twice daily for three days, then three times daily during the week preceding parturition, and two drachms the moment it is observed that she is about to calve. Where the cow is fat she may also have two drachms immediately after parturition. While this plan succeeds, it checks milk flow after calving, hence is somewhat objectionable.

**TREATMENT.**—Place the cow attacked with milk fever in a box stall, or shady place in summer time when out of doors. Prop her up by means of bags filled with straw, so that she must lie on her sternum (breast bone). Keep her head up in the same manner. She will soon bloat and die if allowed to lie upon her side. Tap the pouch with trocar and cannula, if she is bloated when found. Give no drenches of medicine by the mouth. Strip away the milk, wash the udder clean with warm water and soap, adding chloro naphtholeum to make a 2% solution. This done, place udder upon a clean rubber sheet, to prevent soiling. By means of a 5-foot length of 1-inch rubber hose, in one end of which has been inserted a large milking tube and the other a glass funnel, infuse very slowly into each teat in turn half a pint of milk-warm solution of two drachms of iodide of potash in one quart of freshly boiled water. Then rub the udder well once an hour until the liquid is absorbed.

Inflation of the udder with pure oxygen gas gives even better results than the iodide of potash treatment.

In addition to the above treatment, syringe a gallon of soapy warm water into the rectum every four hours; remove the urine by means of catheter at least twice daily; repeat the infusion of iodide of potash solution, if the cow is not up inside of twenty-four hours. Do not milk in less than six hours. Give by mouth one drachm of fluid extract of nux vomica in a tablespoonful of water every six hours. Turn the cow partly every four hours, so that the hind leg can be pulled forward, and outwards to retain her on her chest. Let her drink when she can do so and feed a soft mash when she becomes conscious. Feed her carefully for a few days, and as a rule this will be the last of the treatment necessary.

A. S. ALEXANDER, V. S.  
Veterinarian, Wisconsin Agricultural Experiment Station.

CALIFORNIA is closely interested in the range situation, both on buying and selling sides. We recently gave the views of Mr. de Ricques, as prepared for the Breeders' Gazette. We now find in the same journal some comments by Mr. Barnes, of New Mexico, to the effect that Mr. de Ricques was, perhaps, a little too conservative. Mr. Barnes holds that it is an acknowledged fact that for three years we have all been on the down grade until to-day we think the bottom is about reached, or hope so at any rate. There are several causes that, in my opinion, will operate to raise the price of cattle within a year and these are seldom mentioned in articles on the future of the business. There are no figures available to back me up, says Mr. Barnes, but taking our own Territory—New Mexico—for example, it has in round numbers 1,000,000 cattle, from yearlings up. I am satisfied, from close personal observation and knowledge, that our losses over the entire Territory last winter and spring were fully 10% of the total holdings.



## Agricultural Review.

### Fresno.

**RAISIN SITUATION.**—Republican: There is little change in the raisin situation. While orders are coming in every day, they are very light, and no pronounced activity is expected for the present, at least. So far as deliveries are concerned this is the heaviest year in the history of the Association. Up to date there have been received 46,000 tons, and deliveries are still coming in. This is 550 cars in excess of last year's deliveries, which amounted to 40,050. Last year the deliveries making up this amount kept coming until well along in December. The financing of this year's crop has been a very difficult proposition on account of the heavy shipments, rushed in one might say almost at once, and owing to the comparative slowness that the East has taken the goods. Up to October 24th the directors have paid the 3-cent advance on sweatbox weight, amounting to about 3.13 cents on packed out goods. This last amount in money to about \$2,400,000. The directors are now arranging to make payments on the balance of the deliveries to date.

**BIG PUMPKINS AND CITRONS.**—Enterprise: V. Roberts brought a pumpkin to town Monday that weighed 126½ pounds. It was raised on the J. A. Roberts ranch near Del Rey. Mr. Roberts, however, presented a pumpkin to Fresno Chamber of Commerce last week that weighed 166 pounds. He produced a large number of citrons that averaged 64 pounds each.

### Humboldt.

**CREAMERY PRICES.**—Arcata Union: The creameries of this section paid the following prices for butter fat on Nov. 15: Arcata, 30c; Schulz, Niggle & Co., 29½c; Premium, 30c. Creameries in Eel River Valley paid as follows: Capitol, 30c; Cold Springs, 30½c; Cream Valley, 30c; Crown, 30½c; Eel River, 29½c; Excelsior, 30½c; Ferndale, 30½c; Grizzly Bluff, 29½c; Pioneer, 32c; Riverside, 30½c; Silver Star (16 days), 30c; (15 days), 31½c.

**BIG THINGS.**—J. C. Ensign exhibits a sweet potato which he grew on his ranch northeast of Hanford this year that weighs eleven pounds. Mrs. H. D. Barton discovered the nest of one of her Black Minorca hens which contained four eggs that are monsters, averaging 7½ inches by 6½ inches in circumference.

**APIARIES IN GOOD CONDITION.**—County Bee Inspector F. M. Hart was in town last week, having brought 400 pounds beeswax to market, which he took from his own apiary. He says the apiaries about the country are in good condition at present.

### Kings.

**GRAPECROP BEYOND EXPECTATIONS.**—Hanford Sentinel: C. A. Fox, overseer of A. V. Taylor's ranches, reports almost all of the work of the season completed, except the picking of the second crop of grapes for wine, and that he has had a great deal of trouble getting pickers to do the work. He has had a crew at work on Mr. Taylor's ranch near Grangeville, but they have been longer in getting through than was expected, as the crop has proven about twice as large as figured on. They had calculated on getting about sixty tons of grapes off the forty acres, but there will be at least 120 tons, and if such holds true with the other vineyard, in which there is about sixty acres, he cannot say exactly when the crop will all have been harvested.

### Los Angeles.

**WORK OF HORTICULTURAL COMMISSIONERS.**—The monthly report of Los Angeles County Horticultural Commission for October shows that there were treated during the month 130,611 citrus trees for black scale, of which 116,635 were sprayed with distillate and 13,635 were fumigated. For red scale 1126 trees were sprayed with distillate and 725 were fumigated with gas. The salaries of commissioners and inspectors for the month amounted to \$857.88.

### Mendocino.

**UKIAH PRUNES.**—Ukiah Press: Certain parties have reported that Mendocino county cannot grow prunes. In repudiation of this the grade of W. D. White's entire crop as reported by the Merritt Co. of Santa Rosa is published below: 30-40, 460 pounds; 40-50, 7177 pounds; 50-60, 9986 pounds; 60-70, 7886 pounds; 80-90, 561 pounds; 90-100, 318 pounds; 100-120, 127 pounds. It will be noticed that Mr. White's crop is mainly 40s, 50s and 60s, and for both size and quality compares favorably with any prune on the market.

### Monterey.

**STOCK QUARANTINE RAISED.**—Salinas Index: The following letter relative to

the raising of the quarantine on cattle, which for years has been a ban to the stock raisers of this county, was received recently by Chairman T. J. Field from State Veterinarian Charles H. Blemmer: "Relative to placing Monterey county above the State and Federal quarantine line, I have taken the question up with the United States Department of Agriculture and my request to that effect has been granted, so that beginning with the season of 1904, Monterey county will be free from cattle quarantine restrictions."

### Orange.

**WALNUTS.**—G. A. Hunter, who has charge of the association's packing house at Loara, has dipped the last walnuts of this season. The season's shipments total up ten carloads, against twenty-one last year. While the crop is short, the quality of the nuts is first-class.

**BIG MONEY FOR ORANGES.**—New York Journal of Commerce: Wednesday a car of Old Mission brand of Valencia Lates from C. C. Chapman, Fullerton, brought a total of \$1870.04—up to that time the record for the season. Yesterday a car of the same brand was sold, grossing \$1917.16, the top price being \$8.62½. The average for fancy stock was \$7.77, as against \$7.37 for Wednesday's car; the average for choice was \$5.91, as against \$5.94 the previous day, and for standards \$4.34, as against \$4.09. These prices make very little impression on the jobbing market, as the oranges are bought directly at auction by some of the fancy fruit retailers of the city, and never go into the jobbing stores at all.

### San Diego.

**RAISIN PACK.**—Union: On Friday last the Raisin Growers' Association packing house at El Cajon ran through the stemmer 30 tons—a big day's work. G. M. Hawley, manager, estimates that the house will pack during the present season something over 500 tons. The Kessler Co. put theirs at about 275 tons, while the Boston Fruit Growers & Packers' Co. will have about 250 tons. This gives as the yield of this valley and localities tributary to it, or which have raisins packed here, over 1000 tons.

### San Joaquin.

**WILL GROW FLAX.**—Stockton Mail: Lee A. Phillips and Justin Kay Toles will soon make all necessary preparations for the growing and retting of flax on reclaimed lands. Seed has been sent for from Europe by Mr. Toles. Two tracts of land, one of which will consist of 100 acres on the Middle River Co.'s reclaimed land and the other of upland, have been selected. Mr. Toles has contracted for all the required machinery to produce linen fiber, and he will have the mill ready for the crop when it is harvested. The mill to be erected will prepare the linen fiber for Eastern manufacturers. There is no danger of overstocking the factories, as the product is small throughout the United States.

### Santa Cruz.

**THE POTATO CROP.**—Watsonville Pajaronian: The potato harvest in Pajaro valley was just getting under way when rain began to fall, and, as a result, work was brought to a standstill for a time. As a whole the crop will be about 80% of what it was last year, but there are some fine individual crops. Where potatoes were planted on land devoted to beets last year the crop is light. One of the best potato crops in the valley is that of James I. King, grown on reclaimed slough land west of town. It is estimated that Mr. King will average about 250 sacks of potatoes to the acre on forty acres of land. M. J. McGowan, James Williamson and others also have fine crops. The former planted on onion land and the latter on barley land. The quality of the potatoes grown is first class and the price is 80 cents per cental.

### Sonoma.

**MORE CHICKENS.**—Petaluma Argus: A poultry incubator company located here has just received a shipment of 5000 steel screws of a special cut and design. As only one of these screws is used to a machine, it is readily seen that some incubators are to be made in the next few months.

**AN EARLY BLOOMER.**—At the residence of C. A. Jacobsen, in Cherry valley, there is an apple tree in full bloom. The tree is of the Gravenstein variety.

**SHIPPING HUCKLEBERRIES.**—Santa Rosa Democrat: Over 2000 boxes of wild huckleberries have been shipped to San Francisco from around Occidental and Freestone. The huckleberries were gathered on the hills and people made good coin.

**THE SEASON'S PACK.**—The total pack at the Santa Rosa cannery for the past season was 153,024 cases. Apples, blackberries, apricots, cherries, peaches, plums, raspberries, grapes, loganberries and tomatoes were handled.

### Tehama.

**MOSTLY VOLUNTEER GRAIN.**—Red Bluff People's Cause, Nov. 14: Hugh Mooney was up from his Tehama ranch to-day. He said the farmers down in his section were busy harrowing their grain. He said he had never seen so much volunteer grain put in as there has been this season. Owing to the lateness of the rains the farmers did not stop to plow their land before sowing, but have gone ahead with their planting and are putting their grain in with the cultivator and the harrow.

**SHEEP INSPECTION.**—Ben Lowrey returned from Orland Monday, where he inspected a band of mutton sheep. Mr. Lowrey reports sheep as being more free from disease this season in Tehama county than for several years past, but says that most of the sheep are in poor condition owing to the scarcity of feed, and that unless the weather is favorable for new feed to grow, many sheep and cattle will probably perish during the winter.

### Tulare.

**SOME MAMMOTH POTATOES.**—Porterville Messenger: Down in the Poplar country Mrs. A. L. Haley has a patch of sweet potatoes, and last week she noticed a great upheaval around one of the hills. She dug into this hill and took therefrom 61 pounds of sweet potatoes. Two potatoes in the hill weighed, respectively, 14 and 16 pounds. An effort is being made to preserve the potatoes that they may be sent to the St. Louis Fair. Mrs. Haley has dug a number of hills that have produced potatoes of from 5 to 10 pounds each.

**WINE GRAPE GROWERS MEET.**—Times: At a meeting of the wine grape growers of the Alta district, held at Dinuba, the growers not being satisfied with the proposition made by Mr. Beveridge on behalf of the California Wine Association, it was deemed advisable to take steps toward incorporating. A committee was appointed for the purpose of investigating the different plans of incorporation and report at a meeting to be held on Friday, December 4, 1903. The committee was appointed as follows: A. C. Ruschaupt, chairman; F. H. Wilson, W. B. Nichols, H. B. Hogan, C. S. Hardwick and W. P. Boone.

**A SMALL VINEYARD.**—Dinuba Tribune: G. Blankenship has got his raisin crop off his hands and feels greatly pleased with the result. He secured 17½ tons of raisins off twelve acres. His expenses for hired help amounted to \$150, and he cleared \$1600 from the crop.

**A BEE RECORD.**—Register: L. A. Walker, who lives a few miles northwest of Tulare, says from three stands of bees he extracted 500 pounds of honey this season. He has other stands which he thinks have done fully as well; but these three he kept separated from the others and kept tab on them.

**ORANGE CROP HEAVY.**—Times, Nov. 19: The packing and shipping of oranges was commenced Monday by the Bonnie Brae Packing Co., and up to date seven cars have been shipped, which includes that of the Citrus Union, part of which fruit is from Lemon Cove. Oranges are being hauled to the packing house of the Citrus Association and packing will commence in a day or so. The crop in all the orchards is heavier this year and of better quality.

**SEASON BACKWARD.**—Porterville Messenger: Joe Fry, the orange picking contractor, has opened his forces on the orange orchards in good earnest, and last Saturday started between thirty and forty men at work in the Hathaway orchard. He has already contracted for 100 acres of trees and expects a whole lot more. In speaking of the crop, Mr. Fry says he has never seen the crop as late in this district as it is this season. Last year he started picking on the first of the month and at that time found the fruit much further advanced than it is at this time.

**PICKING OF ORANGE GROVE ALREADY COMPLETED.**—Arthur Clark has a ranch near Porterville and says his orange crop will all be picked and packed by next Monday, and he will then have taken between \$1400 and \$1500 worth of fruit from the six acres of bearing trees. Next year he will have thirty-two acres in bearing.

### Yolo.

**CALIFORNIA DATES.**—Winters Express: Col. Sam Taylor brought to town Saturday three bunches of dates, two of which would probably weigh fifty pounds each. They were of the standard Egyptian variety and a deep maroon color, not quite ripe. The third bunch was a seedling variety produced on Col. Taylor's place, and has been named by the United States agricultural people the "Taylor" date. These dates are much larger than the Egyptian and about the color of a half-ripe olive, nearly 2 inches long, and

are almost an inch thick. A bunch of each variety was shipped to F. H. Buck at Vacaville, to be added to the World's Fair collection.

**ALMONDS ALL SHIPPED.**—Mail: Guggenheimer & Co. have finished shipping the almond crop of Davisville, which was purchased earlier in the season from the Davisville Almond Growers' Association. The crop was not quite as large as usual, but the quality was very good. In all there were about thirty carloads shipped. The varieties consisted of Nonpareil, I X L, Ne Plus Ultra, Drakes, Golden State, Rontier, Peerless, Silver Shell, Hard Shell, Texas Prolific, Languedoc and California Paper Shell.



Warranted to give satisfaction.

## GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

## FRUIT AND VINEYARD LANDS

Sold in 10-Acre Tracts,  
\$160 to \$170 per Acre,  
In the Celebrated

**SANTA CLARA VALLEY,**  
On the direct road from San Jose to  
**STANFORD UNIVERSITY.**  
EASY PAYMENTS.

Address: B. E. BURNS, Mountain View, or  
I. J. TRUMAN, Call Bldg., San Francisco.

## WILL YOU SELL YOUR HOME?

We deal in exchanges and sales anywhere in the United States.

Our proposition is attractive; write for it.

We have a fully equipped collection department in connection.

No collection—no fee.

People can borrow on personal note and pay in installments.

Write us, inclosing stamp.

**RIVERSIDE MERCANTILE AGENCY,**  
RIVERSIDE, CALIFORNIA.



Not to be compared to the ordinary Fresno Scraper offered on this coast. Heavier material, stiffer and superior construction. Runners in back of bowl.



"Fresno" Improved Scraper.

3½-foot, 4-foot and 5-foot.  
Send for Catalogue.

**HOOKE & CO. SAN FRANCISCO.**

**For Sale—Pure Bred Poland-China Hogs,**  
Both sexes. This stock was imported from Illinois at considerable expense and is the best obtainable.  
ROBERT WYLIE, Corvallis, Ore.



## The Home Circle.

### Sweet Cider.

The dapper waiter lingers—  
What shall I drink to-night?  
I turn, with listless fingers,  
The wine list to the light;  
And while I scan it, thinking  
That wine has lost its charm,  
I dream once more of drinking  
Sweet cider at the farm.

From granddad's ancient settle,  
Before the crackling blaze,  
I watch the singing kettle—  
A merry tone it plays.  
There, when the corn was snapping,  
And apples sized and steamed,  
With granddad slyly napping,  
My sweetest dreams were dreamed.

The winter wind, snow laden,  
Coaxed up the roaring flames,  
And there a rosy maiden  
Sat by and played me games;  
There Love, who heard the clinking  
Of glasses, came and saw  
Two happy lovers drinking  
Sweet cider through a straw.

Sung sheltered from the weather,  
At Boreas we laughed,  
And quenched our thirst together  
In that cool amber draught;  
That drink of granddad's making,  
Pressed in the mill hard by,  
Set no light head to aching,  
Turned no bright speech awry.

Stilled are the clinking glasses,  
Long vanished is your smile,  
Oh, rosiest of lasses;  
But still I dream, and while  
My gray mustache I'm dipping  
In wine without a flaw  
I see your red lips sipping  
Sweet cider through a straw.

Frank Roe Bachelder.

### Old Sharkey.

"When are you going to town with your dust, Smith?" asked a tall, unshaven miner, as he looked into our cabin, one day, when I and my partner, Seth Wiley, were at dinner. I knew the man's name to be Nason, and since coming to the mines, scarce four weeks before, he had shown us a deal of kindness, for the work was new to us; and it was partly owing to his friendly suggestions that we had been so lucky in finding the golden dust in our claim, until we had quite a heap of the shining ore, and thought it about time to convey it to a place of greater safety than in our cabin in the heart of a great mining district.

"To-morrow, if the day is good," was my answer; and then I added, "won't you come in and take a mouthful with us?"

"I don't care if I do," he replied in rather an unnecessarily loud tone of voice.

As he stepped through the doorway, I got a glimpse of a couple of fellows a short distance off, who had paused, apparently attracted by our conversation; but evidently they had heard our friend accept the invitation, and, thinking they would hear no more, slowly moved on. They were looked upon by the whole community of miners with distrust, as but a small portion of their time was spent at work; and such a class are always at a discount in a community such as ours, where everybody is expected to earn his own bread by the sweat of his brow.

"Take a seat," I said, moving a little one side, so there would be room for him on the bench on which I sat. "No, I thank you; I am in a hurry, and cannot stop but a moment. I only stepped in to ask you when you were going, and to give those chaps a hint to move on, as I thought perhaps it might be just as well that they did not hear what passed between us. And so you go to-morrow?"

"Yes."

"One or both?"

"I am going alone; Seth is to stay and see that nobody infringes on us here."

"But why not send your dust, as I spoke of the other day?"

"Because I have got other business which takes me to town, and so can carry it just as well as not, and save the charges they make to insure its safety."

Nason was silent a moment while I sipped my coffee, and waited for him to speak, if he had further to say.

"What time do you set out?" he asked at length, looking up.

"Not before noon, as I shall have plenty of time to reach old Sharkey's before dark."

"Do you know him?"

"No I have never seen him. His cabin was deserted when we came by, but some one pointed it out as a sort of a half-way house, where the miners stopped over night when coming and going from the mines. There seems to have been quite extensive diggings about here at one time, but they are deserted now, I believe."

"Yes, they were deserted more than a year ago, and no one has undertaken to work them since; but this Old Sharkey—and rightly named he is, too, in my belief—has lived there, keeping a sort of half-way house, or tavern; but of late there have been stories current about him that render people mistrustful. Within the last six months four miners, at least, who set out with their dust, with the intention of returning in a day or two, have never returned, nor has any trace of them been found; and it has been whispered about that Old Sharkey could let in light on their disappearance, if he was so minded. Some two months ago people's suspicions were so aroused that a search was instituted on his premises; but nothing was found to implicate him—not so much gold as he would be apt to have had had he done everything square with the world. But there is chance enough for him to secure it near at hand, as well as to dispose of his victims, providing he has any; for the shafts are deep about him, and partly filled with earth and water, and once sunk in there all trace of them would be lost; but as I have said before, as yet this is all surmise, as nothing has been proved against him; but I would not care to be his guest, if he had reason to think that I had a pile of dust about my person."

"Things do look rather dark, Fred, and perhaps you had better take up with our friend's advice. I've no notion of dissolving partnership with you so soon, or to run the risk of losing my share of the dust," said Seth, when Nason had concluded.

I must own this story had, in a measure, impressed me with doubt as to the honesty of Old Sharkey; still I did not like the notion of backing out, or of letting my companions see that their words had any effect to dampen my courage. Rumor said that Sharkey lived alone, and what had I to fear from a weak, trembling man and dame withal?

If my suspicions were awakened, I could keep my eyes open through the night and my hands on a pair of trusty pistols that I had never known to fail me. The more I reflected the higher my courage rose, and so I made reply to Seth's observation that he would have no need to fear either my loss or that of his gold; but that, at any rate, I should try the hospitality of Old Sharkey as I had intended.

Finding that this story had no effect on my determination, Nason bid us good-day and went to his work, and, our meal being completed, we soon followed his example.

After dinner the next day I set out. The dust was carefully concealed about my person where it would not be liable to excite suspicion that I had a large amount about me, should any one from sinister motives attempt to ascertain the fact. My pistols had been carefully cleaned and loaded that morning by Seth and myself, before we went to work, and I knew they were in good effective condition; and with these, and keeping my eyes open, I had no thought but what I should escape any dangers that might beset me while on my way.

Nason's claim was on the outskirts of the diggings, and the direction I was pursuing led me past where he was hard at work. He looked up as I had

hailed him from a dozen feet below me.

"And so you are off?"

"Yes, good luck to you till my return."

"Thank you; the same to yourself! For God's sake keep your eyes open, and don't forget if anything happens that I warned you."

"I'll not forget, but don't lose any sleep on my account to-night."

With these half-jesting words, I passed on, not stopping to hear clearly the reply made by my friend, whom I thought to be over-cautious.

The sun had sunk beneath the rim of the mountains when I reached the deserted diggings and caught sight of a thin, blue smoke curling upward from one of the cabins that were scattered about, which had once sheltered the miners, and I knew it to mark the abode of Old Sharkey. It was still some distance off, and I made my way slowly over the ground that much resembled a mole hill; for there were shafts and tunnels and piles of dirt thrown up in every direction. Apparently claims had not been given up until every inch of ground had been dug over, and every hope of labor being repaid. As I passed the black, yawning mouths of these shafts, that were scattered plentifully on either hand, I could hardly repress a shudder when I thought of the story Nason had told. Surely, if Sharkey was the villain he had pictured him, he could not ask for a better place to deposit the bodies of his victims than casting them therein, where it would defy the sharp eyes of the law to ferret them out.

I had been so brave in the face of the warning of my friend that it would never do to turn coward now, and at that moment catching sight of a man sitting just outside of the doorway of the cabin from whence the smoke was rising smoking his pipe and watching my advance, I hurried up my steps, and in a few minutes stood face to face with the stranger, who, from the description I had received, I knew could be none other than Old Sharkey himself.

People who had described him as ill-favored had not done him injustice; from the first glance I thought I had never seen a more repulsive countenance in my life. His eyes were deep set and overhung by a mass of huge, bushy eyebrows; a forehead low, and sloping abruptly backward, and crowned by a nondescript sort of an article that might be called by courtesy a hat; a long hook nose, a cavernous mouth, in which a solitary fang-like tooth alone was visible, and a chin on which a scanty beard, nearly white, served only to add to his general ill-favor, and before he spoke I had rapidly come to the conclusion that people had grounds for distrust—that, though a man with such a countenance might be honest, ten to one he was the villain his looks showed him to be.

He removed his pipe from his lips as I came up, and bade me good evening, in a voice harsh and discordant as were his features and motioned me to take a seat on a bench that was standing against the side of the cabin close beside him.

"Where from, stranger?" he asked, as he gave me a rapid glance from beneath his huge eyebrows.

I told him, and asked him if he could accommodate me with the shelter of his cabin for that night.

"Certainly, stranger. There ain't much here to tempt a fellow to keep company, but then, perhaps it's better than camping out and no telling what sort of company you may have before morning."

"To this I assented, though I thought as I noticed the leer that accompanied it, that I could not have any worse company than I was favored with now."

"I suppose you are hungry, so come in, and we'll see what we can find to stow away inside and drive out the cold. I wish we had something to drink, but just now my cabin happens to be as dry as a bone."

The old man rose to his feet at my reply in assent to his first observation, and, as I followed him into the cabin, I could not help seeing that his gait was about in keeping with his face, but then, without doubt, both were his mis-

fortunes. He probably could not help his looks, and one leg seemed at least a couple of inches shorter than the other; and I was forced to admit that people in describing him had done him no injustice.

The cabin was divided into two compartments, and in the outer one, that contained a rude bed, table, and a few rough benches, I took a seat, while Old Sharkey bustled around and soon had quite a substantial supper placed on the table, to which I did ample justice, and when the meal was over and my companion was so cheerful like, almost imperceptibly, my distrust of him began to vanish; and when the time had come for retiring, I had arrived at the opinion that I had been guilty of suspecting my host, and that he had been unjustly accused of the high crimes that people had laid to his charge.

How near right I was was demonstrated before morning dawned.

It was between nine and ten that I expressed a wish to retire, and was shown by my host into the other apartment, where, setting down the light and wishing me good-night, he left me, going out and closing the door behind him.

I hardly knew how it was, but no sooner was I left alone than a portion of my suspicions was aroused, and I remembered, with chagrin, that I had intimated to my host the nature of my errand to town, and also that I had been very successful at the mines.

The words had seemed to have escaped my lips against my better judgment, and before I was aware of that I had admitted so much. However, there was no help for it, and, trying to return to my late conclusion that I had nothing to fear, I placed my pistols carefully beneath my pillow, where I could lay my hands on them at a moment's notice, and, then throwing myself on the bed, essayed to sleep.

The room was as dark as pitch, for it contained no windows nor door, except that through which I had entered, and that Old Sharkey had carefully closed, though not so closely but what a ray of light could be seen at one spot as it flashed out from the smouldering cinders of the fire, and I watched it until it faded away, and I no longer heard the footsteps of my host moving about the apartment, and I concluded he had retired. For a few moments longer I remained awake, and then I was unconscious of what was passing around me.

How long I had slept I know not. It might have been one hour, or it might have been longer, when I awoke with a start, and a sense as if some great danger was impending over me. At first I hardly comprehended where I was, but shaking off my drowsiness by a strong effort, I was at last thoroughly awake, and a moment after I heard the sound of voices in the outer apartment, but did not at first distinguish what was said. I listened intently, and the next moment I heard the voice of Old Sharkey, and although the words were uttered in a sort of low whisper, each of them reached my ear distinctly.

"And then you are sure he has dust enough about him to pay us for the job?"

"Yes, he has double the last one we pitched into Downing's Shaft, and that paid us well, you know."

"Then he shall follow suit, boys, and they've got to have sharp eyes if they get a trace of them in that hole with 10 feet of water at least over them, to say nothing of the heap of rocks and pillar of sand."

"He's asleep, you think?"

"He was ten minutes ago, and didn't wake, though I held the light over his eyes."

"All right, then, he'll give us little trouble. I have a notion he will find his pistols empty when he comes to use them on us, should he wake up," said another voice.

"How so, Sam?" asked Old Sharkey, with a chuckle.

"Why you see, I was going by their cabin this morning, and saw them at work fixin' them up in regular order, and, as soon as they had gone to work, I went in and drew the bullets, being



careful to leave everything as I found it. Unless the chap has found out the cheat, we have nothing to fear from him, even if he wakes up, and not much at any rate, for we are three to his one. Come, Sharkey, let's have the job through with, for we must be back to the mines before they are stirring, or we shall have to give an account of ourselves. They mistrust us now, and if they were all like that Nason, they would hang us to the first tree the moment they could lay their hands on us."

Every word of the above had fallen distinctly upon my ear, as I strained every nerve to listen. At the first sound of the voices I thought they sounded familiar, and now I knew that the men Nason had wished me to avoid the day before were leagued with Sharkey for murder and robbery. There was not a moment to lose, and if I would escape with my life I had got to act.

I placed my hand beneath the pillow and grabbed my pistols, and a moment's examination in the darkness assured me that they had been trifled with, as the villain had stated. But I had plenty of bullets in my pocket, and in less time than it takes to tell it, I had thrown one into the barrel of the pistol I held in my hand, and at that moment the door between me and my foes slowly opened, and, framed in the uncertain light that gleamed through, I saw the hideous face of Old Sharkey, carrying a dim light in his hand, apparently for the purpose of seeing whether I was asleep or awake.

He seemed to come to the conclusion that the former was the case, for I had concealed the pistol beneath the clothes, and was lying motionless, but with my eyes sufficiently open to note his every movement. Stepping back a pace, he set the light down and swinging the door open wider, he came on tiptoe into the room, followed by his villainous companions. The moment had come that was to decide my fate—a moment that I shall never forget to my dying day, so indelibly is it fixed in my memory.

Carefully I worked my hand from beneath the clothes, and when Old Sharkey was not more than two paces away I brought my hand to a quick movement on a level with his breast, and pulled the trigger. A flash and a report, but the villain stood unharmed. My hope for life had failed.

I was on my feet in an instant. Life was sweet, and I would not give up a hold on it while my arm had strength. Raising it, I dealt the villain such a blow that it sent him headlong to the earth, carrying one of the other scoundrels with him.

Giving a bound, I attempted to spring over them, hoping to forestall the other before he could so far recover from his surprise as to wreak his will on me with the villainous-looking knife he carried; but Old Sharkey, recovering somewhat from the effects of the blow I had given him, caught me by the leg, and the next moment I was floundering among them, carrying down with me the last man that had kept his legs, who, as he fell, uttered a cry of pain, for he had driven the knife intended for me into his own leg.

At that moment, when death seemed so near, pinioned down by the murderers as I found myself, there was a tramping of feet in the outer room, and the next moment a dozen men filled the apartment, one bearing the lamp that Old Sharkey had set down, and by its light I beheld both Seth and Nason, who in a moment had pulled me from the heap unharmed, and I was saved.

"The first man of you that stirs, I will send a bullet through his head," exclaimed Nason, to the writhing, villainous mass upon the floor, "as each individual was making a desperate effort to regain his feet, and the threat had the effect desired.

I told my story in a few words, after our prisoners were safely secured beyond a chance of escape, not forgetting to relate that which I had heard of the terrible contents of Downing's Shaft; and when I was done, the look of stern determination on the faces of my companions looked ill for the trembling

villains who felt that their last hours were drawing to a close.

From Seth and Nason I learned that they had left the diggings as soon as it was discovered that the two villains had also left the place, for they had no doubt that my life was in danger, and as events showed, they had not reached the cabin a moment too soon.

With the morning light, while a part of the men guarded the prisoners, the rest made an examination of Downing's Shaft, where conclusive proof was found of the terrible crimes that had been committed by Sharkey and his accomplices; and the men turned away from the poor relics of humanity there discovered, with the conviction that they had a stern duty to perform, and one that justice demanded should not be long delayed.

An hour later we turned our backs upon the cabin; but we had left there a ghastly sight for the next comers to gaze upon; nothing less than the inanimate bodies of Old Sharkey and his companions swinging in the wind.—Waverly Magazine.

#### Domestic Hints.

**LEMON PIE.**—Two lemons; bake them a short time, then squeeze and strain the juice; boil the rind in half a pint of water, then pour the water into the following mixture: Two cupfuls sugar, half cupful sweet milk, one tablespoonful cornstarch, one of butter, yolks of six eggs. Bake it in paste; then beat the whites with eight tablespoonfuls of sugar and pour over the pie; brown slightly. This quantity makes two pies.

**RICE PLUM PUDDING.**—Three gills of rice, one-quarter pound butter, one-quarter pound sugar, one quart milk, one teaspoonful salt, six eggs, one and a half pounds raisins or currants, one-half tablespoonful cinnamon, a little rose water, one grated nutmeg; boil the rice with lemon peel in the milk till soft; mix butter, sugar and eggs; dredge the fruit with flour and put in with the cinnamon, last; bake one hour and a half.

**CORN PUDDING.**—For a medium-sized corn pudding use the pulp of half a dozen ears of corn. Beat two eggs together, add half a teaspoonful of salt and one and one-half cups of milk. Stir in the corn pulp and bake the whole for about two hours in an earthenware pudding dish. Some people add a tablespoonful of sugar to the eggs in stirring them with the other ingredients. The pudding is served on the dinner table with the meat as a vegetable, and is excellent.

**GINGER SNAPS.**—Fourteen ounces of white sugar, eight ounces of butter, eight eggs, one teacupful of milk, two ounces of ground ginger, two tablespoonfuls of baking powder, one and a half pound of flour. Mix up in the usual way for cookies. Sift sugar over before cutting out the cakes. It is generally best to make the dough for all kinds of cookies and sugar cakes as soft as it can possibly be rolled out. Different persons make very different cakes of these sorts from the same recipes, and the common fault is too much flour in the dough. The baking powder, too, is responsible for some of the changes. With too much powder the cakes run into each other and lose the good round shape they ought to have.

**TO BOIL MUTTON.**—Boiled mutton is not a poetical dish, but it is a good standby for the family dinner. The leg on boiling should be quite fresh. Wipe, remove all the fat and put into a kettle of well-salted boiling water. As it begins to boil, skim frequently, then set back on the range and simmer slowly, allowing twenty minutes to each pound of meat. A little rice is frequently boiled with the mutton. Serve with a thick caper sauce poured over the mutton and currant jelly. The caper sauce is merely a drawn-butter sauce, made by combining a scant half cup of butter with two tablespoonfuls of flour in a saucepan, adding when bubbly one pint of the hot water in which the mutton was boiled, seasoning to taste, and adding at least six tablespoonfuls of capers or pickled nasturtium seeds.

#### Hints to Housekeepers.

Ammonia diluted by the same amount of water will take ink stains out of white goods.

Sugar and salt will both preserve meat, because they absorb the moisture in it, and so prevent decomposition.

The unsightly face of a bisque doll may sometimes be restored to something like its pristine beauty by rubbing it with a soft cloth oiled with butter.

Colored muslins, it is said, should be ironed with a somewhat cooler iron than is used for white clothes, as the too great heat is liable to fade the colors.

Unslaked lime or plaster of paris mixed with white of egg to the consistency of cream is said to produce an excellent home-made cement for mending broken china.

"Do you sprinkle your clothes with cold water?" asked the veteran housewife, pityingly, of the five-weeks bride. "Then let me tell you something. Use hot water. It will dampen the clothes more evenly, and they will be ready for ironing sooner."

A mother with several small children, and no kindergarten to send them to, outlines an animal with a pencil on a sheet of paper, then pricks it all around with her sewing machine, leaving the needle unthreaded. Her little ones take delight in sewing the outline thus pricked, and, at the same time, they learn to make a true seam and to place their stitches evenly.

Cheap eggs  
are as good as  
cheap lamp-  
chimneys.  
MACBETH.

If you use a wrong chimney, you lose a good deal of both light and comfort, and waste a dollar or two a year a lamp on chimneys.

Do you want the Index? Write me.

MACBETH, Pittsburgh.

#### WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

#### LOS CATOS--THE GEM CITY.

Property for sale in the town and its suburbs; the center of the fruit belt, beautiful for location, climate unexcelled.

6 1/2 acres 1/2 mile from depot, on Saratoga road; a snap. Price \$4500  
13 acres 1 mile out; in orchard; comfortable residence. \$3500  
1 acre close in; elegant improvements; large house. \$4500  
26 acres, summer resort, 4 miles out, part in orchard; a bargain; near station. \$3500  
Extra bargain, right in town, 12-room house, well kept grounds. \$6500  
In heart of town, beautiful residence, well kept grounds. \$3500  
5-acre tract close in, with orchard. \$2000  
One same size adjoining. \$1800  
5-acre full bearing orchard, fine improvements, 2 1/2 miles out, large house, only. \$3000

JOHN F. BYXBEE Pa'o A'lo Santa Clara County, Cal.

**GLENN RANCH,**  
Glenn County, - - California.  
**FOR SALE**  
**IN SUBDIVISIONS.**

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

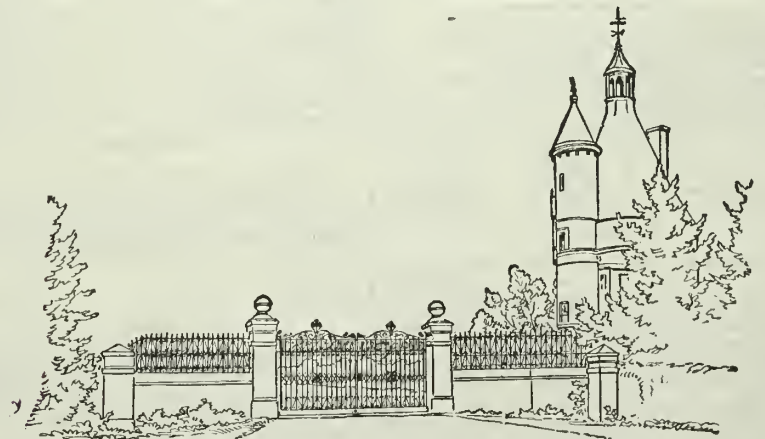
This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips. The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

**ALFALFA**

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasturage for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

**KEARNEY VINEYARD SYNDICATE**

**KEARNEY PARK, FRESNO, CALIFORNIA**

**STOCK RANCHES a Specialty.**

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, November 24, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	78 1/2 @ 79 1/2	77 3/4 @ 78 3/4
Thursday	78 3/4 @ 79 1/2	78 3/4 @ 79 1/2
Friday	79 @ 80 1/2	78 3/4 @ 79 1/2
Saturday	80 1/2 @ 79 3/4	79 @ 78 3/4
Monday	80 @ 79 3/4	78 3/4 @ 79 1/2
Tuesday	79 1/2 @ 80	78 1/2 @ 79 3/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	41 1/2 @ 42 1/2	41 1/2 @ 42 1/2
Thursday	42 1/2 @ 43 1/2	41 3/4 @ 42 1/2
Friday	42 1/2 @ 43 1/2	41 3/4 @ 42 1/2
Saturday	43 1/2 @ 44 1/2	42 1/2 @ 43 1/2
Monday	43 1/2 @ 44 1/2	42 1/2 @ 43 1/2
Tuesday	43 @ 43 1/2	42 @ 43 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 35 @ 1 34 1/2	\$1 33 @ 1 32 1/2
Friday	1 34 1/2 @ 1 35 1/2	1 32 1/2 @ 1 33 1/2
Saturday	1 34 1/2 @ 1 35	1 32 1/2 @ 1 32 1/2
Monday	1 34 1/2 @ 1 34	1 32 1/2 @ 1 31 1/2
Tuesday	1 34 1/2 @	1 32 1/2 @ 1 32 1/2
Wednesday	@	@

### Wheat.

The local market is showing little life, and indications are not favorable for any material change very soon. Shippers have been practically out of the market for several months. The wheat clearances from this port for the month of November up to this writing do not aggregate one good sized ship load. All the wheat which has gone outward from here since the beginning of the season would not make full cargo for five large ships. For a long time there have been no Liverpool quotations for California wheat, the excuse being given that there is no stock there from this State. Local millers are not doing much purchasing. The opportunity does not present itself to secure great quantities of desirable milling wheat, neither are millers inclined to stock up to any great extent at prices asked. The favorable crop weather throughout a large portion of the State has caused an easier tone to prevail, but at the same time free purchases could not be effected at best figures warranted as quotations. On the other hand, if holders were to crowd stock upon the market, current quotations could not be maintained. Eastern markets showed less firmness than preceding week, foreign markets failing to respond to the advance. A good crop is reported in Argentina, and wheat is now beginning to move from there to Europe in considerable quantity.

California Milling.....\$1 40 @ 1 50  
Cal. No. 1 shipping, alongside.....1 35 @ 1 37 1/2  
Oregon Club.....1 35 @ 1 40

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.35 1/4 @ 1.31.  
May, 1904, delivery, \$1.33 1/2 @ 1.31 1/2.  
Tuesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.34 1/4 @—; May, 1904, at \$1.32 1/4 @ 1.32 1/2.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	68 7/8 @ 68 7/8	s-d @ s-d
Freight rates	12 1/2 @ 15	10 1/2 @ 11 3/4
Local market	\$1 35 @ 1 40	\$1 35 @ 1 37 1/2

### Flour.

Demand for this cereal continues fairly active, mainly for desirable shipping grades, most of the deep-sea ships now chartered for grain being under engagement to carry barley. Four vessels were added to the grain fleet the past week, two to take straight barley cargoes, and the others wheat and barley, but wheat wheat will cut a small figure in the loading. One ship was chartered for barley straight at 10s 6d to Europe, usual option as to port of discharge. Another ship is being loaded on account of owners, and is expected to take a full barley cargo. Although crop prospects were never much more favorable at this early date, and there is every indication that the acreage seeded to barley will be large, values in the spot market are being fairly well maintained, with no heavy offerings for immediate or near future delivery.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Fancy brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	3 50 @ 4 00
Washington, Bakers' extra	3 50 @ 4 15

### Barley.

Quotable values remain as previously noted, but the movement is not brisk, either outward or on local account, and market cannot be termed particularly firm at current figures. It is not probable, however, that there will be any radical declines in the near future. Spot stocks are of quite moderate volume and

are largely the product of mills outside the State.

Feed, No. 1 to choice	\$1 13 1/2 @ 1 15
Feed, fair to good	1 11 1/4 @ 1 12 1/2
Brewing, No. 1 to choice	1 17 1/2 @ 1 22 1/2
Chevalier, No. 1 to choice	1 37 1/2 @ 1 47 1/2
Chevalier, common to fair	1 12 1/2 @ 1 32 1/2

### Oats.

There have been no large receipts the past week from any quarter, and local holdings are far from heavy, stocks in the principal warehouses in this city aggregating over 1,000 tons less than at corresponding date a year ago. The recent liberal rains have, however, imparted a rather weak tone to the market for ordinary feed qualities, and buyers are taking hold slowly. Choice seed oats are being quite steadily held, with offerings of this description light.

White oats, fancy feed	\$1 32 1/2 @—
White, good to choice	1 25 @ 1 30
White, poor to fair	1 20 @ 1 22 1/2
Milling	1 27 1/2 @ 1 32 1/2
Surprise, good to choice	1 25 @ 1 35
Black Russian feed	1 25 @ 1 40
Black for seed	1 50 @ 1 65
Red, fair to choice	1 20 @ 1 35

### Corn.

Business in this cereal continues of a light order, owing to the comparatively high prices prevailing. Spot stocks of either California or Eastern corn are not large enough to admit of much active trading, but there is more than there is immediate custom for at full current figures, especially of the large varieties.

Large White, good to choice	\$1 27 1/2 @ 1 32 1/2
Large Yellow	1 30 @ 1 35
Eastern, in bulk	1 22 1/2 @ 1 27 1/2

### Rye.

Offerings and demand are both of light proportions. Values are ruling fairly steady.

Good to choice, new	\$1 25 @ 1 30
---------------------	---------------

### Buckwheat.

Nothing at present doing in a wholesale way. Millers are fairly stocked for the time being. Values are without quotable change.

Good to choice	\$1 90 @ 2 25
----------------	---------------

### Beans.

There has been a little more inquiry and in consequence a slightly better tone. Large Whites and Pinks have been most sought after, and prices for these varieties have inclined in favor of sellers, more especially for Pinks, which are not in large stock. If speculative operators succeed in getting control of most of the Pinks, materially higher prices may be looked for. There is considerable movement outward in Large Whites, but no scarcity of stocks, and if asking prices were materially advanced the shipping demand would be checked. Red beans are in light stock and are being firmly held. Market for Limas continues quiet and presents a rather easy tone.

Pea, fair to good, 100 lbs.	\$2 75 @ 3 00
Small White, good to choice	2 30 @ 3 00
Large White	2 30 @ 2 55
Pinks	2 40 @ 2 60
Bayos, good to choice	2 25 @ 2 40
Red Kidneys	4 00 @—
Reds	3 00 @ 3 25
Limas, good to choice	2 90 @ 3 00
Black-eye beans	1 90 @ 2 10
Garbanzos, large	2 00 @ 2 25
Garbanzos, Small	1 25 @ 1 50

### Dried Peas.

Trade is slow and values are not very clearly defined. Most of the growers are holding for higher figures than are now obtainable or than have been yet established this season as quotable values.

Green Peas, California	2 00 @—
Niles Peas	2 30 @—

### Hops.

In the way of transfers from first hands there is not much doing in this market. Stocks in the hands of dealers are being steadily held. The last steamer for Australia took nearly 90,000 lbs., being close to 500 bales. The New York Producers' Price Current gives the following resume of the situation: "Some interesting figures as to the movement of stocks from primary points have been secured, and they show a remarkable trade for so early in the season. Out of a crop of 50,000 bales in California, four-fifths are now out of first hands. One-half of the 80,000 bales in Oregon have been sold; 16,000 bales of the 32,000 bales in Washington, and fully 25,000 bales of the New York State crop of 50,000 bales, have also been marketed. It is possible that considerable lots have been taken speculatively, but a good many have gone to brewers, particularly in the West, and the purchases on English account have been quite liberal. Dealers do not appear to be heavily stocked. The situation of our local market does not change much. Fine quality hops, either State or Pacific coast, are rather firm, with exporters ready to take the choice shippers at or about our top figures. Other sorts are irregular and the wide variation in qualities makes it difficult to give very reliable quotations for such. Dealers are buying cautiously

and brewers having secured good supplies are more indifferent. In the interior of this State the business is at 25 @ 30c. generally, though choice shippers bring 31c. On the Pacific coast the feeling is firm at 15 @ 23c. for the extreme range of qualities. London is rather more quiet. Official estimate of the English crop is 421,000 cwt., or 111,000 cwt. more than last year. Germany has made a further advance of 15 marks and the feeling is firm."

California, good to choice, 1903 crop.....20 @ 23

### Wool.

The local market is showing a very quiet state, especially as regards transfers from hands of growers. There is very little competitive bidding among dealers, most of them showing no inclination to purchase, except in the filling of positive orders. Values are without quotable change, but are largely nominal, in the absence of any noteworthy wholesale trading. The steamer Colon, sailing on Saturday last, took 22,810 pounds wool for New York.

### Wool.

Humboldt and Mendocino	11 @ 13
Mountain, free	9 @ 11
Sau Joaquin Plains	7 @ 10

### Hay and Straw.

Arrivals of hay have been quite moderate the past week, as has also been the demand. The weather much of the time has been unfavorable for doing business in this line. Values have been fairly well maintained at previously quoted range. With anything like active inquiry in the near future, prices will be likely to harden, as stocks are now all under cover and mostly in the hands of dealers.

Wheat, good to choice	\$13 50 @ 16 50
Wheat and Oat	13 50 @ 15 50
Oat, fair to choice	11 00 @ 14 50
Barley	10 00 @ 13 00
Clover	10 50 @ 11 50
Alfalfa	9 50 @ 11 00
Stock hay	9 00 @ 9 50
Compressed	13 50 @ 16 50
Straw, 3/4 bale	55 @ 65

### Millstuffs.

Bran market has been quiet and devoid of firmness, although in quotable values there are no special changes to record. Middlings were not plentiful and were in the main very steadily held. Rolled Barley and Milled Corn were not obtainable at materially lower figures than previously quoted, there being no heavy stocks of either description.

Bran, 3/4 ton	\$20 00 @ 21 00
Middlings	24 00 @ 27 50
Shorts, Oregon	21 00 @ 22 50
Barley, Rolled	21 00 @ 25 00
Cornmeal	30 00 @ 31 00
Cracked Corn	30 50 @ 31 50

### Seeds.

Alfalfa is in good request and market is firm, stocks being light of both California and Utah product. Considerable quantities are being forwarded to South Africa. Prices for Mustard Seed are without change; business doing here is mostly on local account and not brisk. Bird Seed market is ruling steady, with business of fair volume in a jobbing way.

	Per cwt.
Alfalfa, Cal., good to choice	\$14 00 @ 15 00
Alfalfa, Utah	15 00 @ 16 00
Plax	2 00 @ 2 50
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25
	Per lb.
Canary	5 @ 5 1/2
Rape	1 1/2 @ 2 1/4
Hemp	3 @ 3 1/2
Timothy	6 @ 6 1/2

### Honey.

The outward movement of Extracted continues of fairly liberal proportions. The steamer Colon, sailing on 21st inst., took 400 cases for New York. Stocks of Comb are of moderate volume, but do not include much water white. Market is firm for high grade honey. Quotable values remain as previously noted.

Extracted, White Liquid	5 1/2 @ 6
Extracted, Light Amber	4 1/2 @ 5
Extracted, Amber	4 @ 4 1/2
Extracted, Dark Amber	3 1/2 @ 4
White Comb, 1-frames	13 @ 14
Amber Comb	9 @ 11

### Beeswax.

There is a fair demand, both for shipping and on local account. Market is steady at the figures quoted.

Good to choice, light 3/4 lb	27 1/2 @ 29
Dark	25 @ 26

### Live Stock and Meats.

Beef was in good demand and current values were well maintained, especially for best qualities. Veal was salable to good advantage, offerings being of quite moderate volume. Prices realized on Mutton were fully up to the figures of preceding week, market being moderately firm at the quotations, especially for choice Wethers. Large Lamb is in fair receipt; choice small is too scarce to be quotable. The Hog market is without improvement in the matter of prices. Values East are on a lower plane than here, and local packers are in consequence proceeding slowly.

Allowing for the shrinkage of about 50%, which

is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net 3/4 lb	6 1/2 @ 7
Beef, 2nd quality	5 1/2 @ 6
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 1/2 @ 8c; wethers	8 @ 8 1/2
Hogs, hard grain, 140 to 200 lbs	5 1/2 @ 5 3/4
Hogs, large, hard, over 200 pounds	5 @—
Hogs, small, fat	5 @ 5 1/4
Veal, small, 3/4 lb	8 1/2 @ 9 1/2
Lamb, Spring, 3/4 lb	9 @ 10

### Hides, Skins and Tallow.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	9 @—	8 @—
Medium Steers, 48 to 56 lbs.	8 @—	7 @—
Light Steers, under 48 lbs.	7 1/2 @—	6 1/2 @—
Heavy Cow Hides, over 50 lbs.	8 @—	7 @—
Light Cow Hides, under 50 lbs.	7 1/2 @—	6 1/2 @—
Stags	5 1/2 @—	4 1/2 @—
Wet Salted Kip	@ 9	@ 8
Wet Salted Veal	@ 10	@ 9
Wet Salted Calf	@ 11	@ 10
Dry Hides	15 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs.	@ 13	@ 12
Dry Calf, under 4 lbs.	@ 18	@ 16
Pelts, long wool, 3/4 skin	90 @ 1 30	
Pelts, medium, 3/4 skin	70 @ 80	
Pelts, short wool, 3/4 skin	40 @ 50	
Pelts, shearing, 3/4 skin	15 @ 25	
Horse Hides, salted, large prime, each	2 75	
Horse Hides, salted, medium	2 50	
Horse Hides, salted, small	2 00	
Horse Hides, dry, large	1 75	
Horse Hides, dry, medium	1 50	
Horse Hides, dry, small	1 25	
Tallow, good quality	4 1/4 @ 4 3/4	
Tallow, poorer grades	2 1/2 @ 3 1/2	

### Bags and Bagging.

Bean Bags	\$4 1/2 @ 5
Fruit Sacks, cotton	6 1/2 @ 6 3/4
Fruit Sacks, jute, as to quality	5 @ 5 1/2
Grain Bags, Calcutta, 22x36, spot	5 @ 5 1/4
Grain Bags, San Quentin, in lots of 2000, 100	5 55 @—
Wool Sacks, 4-lb	32 @—
Wool Sacks, 3 1/2-lb	30 @—

### Poultry.

Turkeys received the bulk of attention this week in the poultry line, as they invariably do at Thanksgiving time. Supplies were not excessive of either Dressed or Live and all good to choice stock was favored with a firm market. Other poultry was not neglected. The generally stiff prices ruling on Turkeys directed considerable trade to Chickens, Ducks and Geese, offerings of which in prime to choice condition brought fully as good average prices as preceding week. Pigeon market was steady, with demand moderate.

Turkeys, dressed, 3/4 lb	\$25 @ 29
Turkeys, young gobblers, 3/4 lb	21 @ 23
Turkeys, young hens 3/4 lb	21 @ 23
Hens, California, 3/4 dozen	6 00 @ 6 50
Hens, large	6 50 @ 7 50
Roosters, old	5 00 @ 5 50
Roosters, young (full-grown)	6 00 @ 7 00
Fryers	5 00 @ 5 50
Broilers, large	4 50 @ 5 00
Broilers, small to medium	3 00 @ 3 50
Ducks, old, 3/4 dozen	5 00 @ 6 00
Ducks, young, 3/4 dozen	6 00 @ 7 00
Geese, 3/4 pair	1 75 @ 2 00
Goslings, 3/4 pair	2 00 @ 2 25
Pigeons, old, 3/4 dozen	1 00 @ 1 25
Pigeons, young	2 00 @ 2 25

### Butter.

The market is lacking in firmness, especially for other than most favorite marks going to special custom. Arrivals of fresh are on the increase and promise to be of quite liberal proportions in the near future. There is considerable cold storage butter of various grades still in stock, both domestic and Eastern product, and holders would like to effect an early clean-up of these goods.

Creamery, extra, 3/4 lb	31 @—
Creamery, firsts	28 @ 30
Creamery, seconds	24 @ 25
Dairy, select	25 @—
Dairy, firsts	22 1/2 @ 25
Dairy, seconds	21 @ 21 1/2
Cold storage	23 @ 25
Mixed Store	18 @ 20

### Cheese.

Practically the same conditions remain current as last noted. Mild new of high grade is in light supply, but stocks of well seasoned flats are larger than immediate custom can be found for at prevailing rates. Small cheese are not plentiful, neither is the demand for them very brisk at full current figures.

California, fancy flat, new	13 @ 13 1/2
California, good to choice	11 1/4 @ 12 1/4
California, "Young Americas"	13 1/4 @ 14
Eastern	14 @ 15 1/2

### Eggs.

Fancy fresh were scarce most of the week. Such as were uniformly large and white and in every way desirable were difficult to obtain under 52c, and were equally difficult to place, except in a retail way, at materially higher figures. That present values will be long maintained is not probable. Holders of cold-storage eggs are taking advantage of the situation and are letting stocks glide into the hands of consumers as rapidly as possible at present profitable prices.

California, select, large, white and fresh	52 1/4 @—
California, select, irregular color & size	25 @ 21
California, good to choice store	28 @ 32
Eastern, cold storage	25 @ 27 1/2

### Vegetables.

Fresh vegetables made a very limited



showing most of the week, and desirable qualities met in the main with a firm market. A sharp advance was effected in the price of Onions, spot supplies being light and mostly in few hands.

Beans, Lima, 1/2 lb.	4 @ 6
Beans, String, 1/2 lb.	3 1/2 @ 5
Cabbage, choice garden, 100 lbs.	60 @ 1 00
Cucumbers, 1/2 large box.	60 @ 1 00
Egg Plant, 1/2 box.	40 @ 65
Garlic, 1/2 lb.	6 @ 8
Onions, Australian Brown, 1/2 cental.	1 40 @ 1 50
Onions, Yellow Danver, 1/2 ct.	1 35 @ 1 40
Okra, Green, 1/2 small box.	— @ —
Peas, Sweet Garden, 1/2 lb.	3 1/2 @ 5
Peppers, Green Chile, 1/2 box.	35 @ 60
Peppers, Bell, 1/2 box.	40 @ 65
Summer Squash, 1/2 large box.	75 @ 1 25
Tomatoes, Bay, 1/2 large box.	50 @ 1 00
Tomatoes, Los Angeles, 1/2 crate.	1 00 @ 1 25

Potatoes.

Market has developed more firmness and is quotably higher for all grades of Burbanks. There has been considerable speculative buying the past week, both here and in the interior. The impression prevails that all the potatoes available will be required before the opening of next season. Prices for Sweets averaged a little higher than previous week.

Sacramento River Burbanks.	75 @ 90
Salinas Burbanks, 1/2 cental.	1 15 @ 1 50
Petaluma and Tomales Burbanks.	75 @ 1 00
Oregon Burbanks.	90 @ 1 20
Sweets.	1 25 @ 1 35

Fresh Fruits.

Apples were in increased supply, shippers anticipating an active demand on holiday account, and in this they were not disappointed. With little other fresh fruit on the market in palatable condition, Apples were in good request. The supply proved ample for the requirements, however, and only for strictly choice to fancy was the market noteworthy for firmness, the quotable range of values continuing much the same as preceding week. California Spitzenberg were not quotable in a regular way over \$1.50 per box, but there were some from Oregon which were limited at \$2.25 per box. The latter were of extra size and superior quality and the box larger than regulation size. They did not meet with much demand at the price named. Pippins had to be very superior to command over \$1.35 in a regular way. Sales of Bellefleurs were mainly within range of 75c@1 per box, a few fancy bringing up to \$1.25 and some wormy stock going under 75c. Jonathans brought much the same figures as Bellefleurs. Smith's Cider sold as low as 50c and rarely above 90c. Winter Nels Pears of high grade were sought after at full current quotations, and fair to good were in moderate request at the lower figures current on these kinds. Grapes were in light receipt and were mostly rain damaged to some extent; qualities considered, fairly good prices were in most instances realized. Strawberries and Raspberries were in very light receipt. Cranberries were in active demand and prices ruled decidedly firm.

Apples, fancy, 1/2 4-tier box.	\$ 1 25 @ 1 50
Apples, good to choice, 1/2 50-box.	65 @ 1 00
Apples, common to fair, 1/2 50-box.	30 @ 60
Cranberries, Coos Bay, 1/2 box.	2 50 @ 3 00
Cranberries, Eastern, 1/2 bbl.	10 50 @ 12 00
Grapes, 1/2 crate.	60 @ 1 00
Grapes, 1/2 small box.	40 @ 65
Grapes, 1/2 large open box.	1 00 @ 1 75
Pears, Winter Nels, 1/2 box.	1 00 @ 1 50
Pears, other varieties, 1/2 box.	50 @ 1 00
Persimmons, 1/2 box.	50 @ 1 00
Pomegranates, 1/2 large box.	1 25 @ 1 50
Raspberries, 1/2 chest.	— @ —
Strawberries, Longworth, 1/2 chest	8 00 @ 10 00
Strawberries, Melinda, 1/2 chest.	— @ —

Dried Fruits.

There is a fair volume of business doing in the dried fruit market in a jobbing way—sales from second hands—but not much trading of a wholesale character. The outward movement the past week has been of fairly liberal proportions, representing mostly deliveries on previous sales, and the bulk of the shipments being small Prunes to Europe. Nearly 800,000 lbs. of all kinds were forwarded outward by sea, including 510,000 lbs. Prunes by steamer Colon on 21st inst., most of this shipment being for Germany. The last steamer for Australia took 61,000 lbs. Prunes. The steamer Umatilla, sailing Monday for British Columbia, carried 121,000 lbs. dried fruit, other than Raisins, the shipment including 53,000 lbs. Prunes. The recent shipments and those arranged for in the near future will about wipe out the stocks of small Prunes. Market is firm for small Prunes at current rates, but is easy in tone for medium and large sizes, supplies of which are still of fair proportions. Apple market is not showing much firmness, and this is also the case with choice to fancy Peaches, although quotable values are without material change. Stocks of Apricots are light and market firm. Pitted Plums are being offered very sparingly and are commanding good figures. Fig market is almost bare of offerings from first hands.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4 @ 4 1/2
Apples, extra choice to fancy, 50-lb boxes.	5 @ 5 1/2
Apricots, Moorpark.	8 @ 10 1/2
Apricots, Royal, good to choice, 1/2 lb.	6 1/2 @ 7 1/2

Apricots, Royal, fancy.	8 @ 9
Figs, 10-lb box, 1-lb cartons.	55 @ 75
Nectarines, 1/2 lb.	4 @ 5
Peaches, unpeeled, fair to good.	4 1/2 @ 5
Peaches, unpeeled, choice.	5 1/2 @ 6
Peaches, unpeeled, fancy.	6 1/2 @ 7
Peaches, unpeeled, extra fancy.	7 1/2 @ 8
Peaches, peeled.	10 @ 12 1/2
Pears, halves, fancy.	9 @ 10
Pears, halves, choice.	7 1/2 @ 8
Pears, halves, fair to good.	6 1/2 @ 7
Plums, Black, pitted.	5 @ 6
Plums, Yellow, pitted.	7 1/2 @ 8 1/2
Prunes, Silver, good to fancy.	5 @ 7
Prunes, in bags, 4 sizes, 2 1/4 @ 2 3/4 c; 40-50s, 4 1/4 @ 4 3/4 c; 50-60s, 3 1/2 @ 4 c; 60-70s, 3 @ 3 1/2 c; 70-80s, 2 1/2 @ 3 c; 80-90s, 2 1/4 @ 2 1/2 c; 90-100s, 1 1/2 @ 2 c; small, 1 1/4 @ 1 1/2 c.	

COMMON SUN-DRIED.

Apples, sliced.	3 1/4 @ 3 1/2
Apples, quartered.	3 1/4 @ 3 1/2
Figs, White, in bulk.	3 @ 4
Figs, Black, in sacks, 1/2 lb.	3 @ 4

Raisins.

Stocks of loose Muscatel are of liberal volume, but there are no heavy supplies of any other description. Layers and clusters are virtually out. Official card rates are unchanged. Shipments for week include 69,000 lbs. for Australia and 71,000 lbs. for British Columbia.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5 1/4 c. per lb.; 3-crown, 5 1/2 c. 4-crown, 6 1/4 c.; Seedless Muscatels, 4 1/4 c.; do floated, 4 1/2 c.; unbleached Sultan, 4 1/2 c.; Thompson's Seedless, 5 1/2 c.	
Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5 1/2 c.; Valencia cured, 4 1/4 c.; Pacific do, 3 3/4 c.; Oriental do, 2 3/4 c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7 1/2 c.; 12-oz. packages, fancy, 6 1/2 c.; choice, 6 1/4 c.; in bulk, fancy, 7 1/2 c.; choice, 7 1/4 c.	

Citrus Fruits.

New crop Oranges are in liberal stock for this date, but include few which are fully ripe, and they are in consequence moving rather slowly. Lemons are ruling steady as to values, with demand only moderate. Limes are in increased supply and market easier.

Oranges, Washington Navels, 1/2 box.	\$2 50 @ 3 50
Oranges, Jaffa, 1/2 box.	2 50 @ 3 50
Oranges, Seedlings, 1/2 box.	1 50 @ 2 00
Oranges, Valencia, 1/2 box.	3 00 @ 4 00
Lemons, California, select, 1/2 box.	2 25 @ 2 50
Lemons, California, good to choice.	1 50 @ 2 00
Lemons, California, fair to good.	1 00 @ 1 50
Grape Fruit, 1/2 box.	1 50 @ 2 50
Limes, Mexican, 1/2 box.	4 00 @ 4 50

Nuts.

Almonds are in light stock and in fairly good request, with market firm at quotably unchanged values. Walnuts are rapidly cleaning up in second hands, full current figures being realized. Chestnuts are in fair supply, including some imported in poor condition. Peanuts are not in heavy stock, but offerings are sufficient for immediate demand.

California Almonds, shelled.	16 @ 20
California Almonds, paper shell.	10 @ 12
California Almonds, soft shell.	7 @ 8
California Almonds, hard shell.	5 @ 6
California Walnuts, soft shell.	13 @ 14
California Walnuts, standard.	12 @ 13
Chestnuts, California-Italian.	8 @ 10
Peanuts, fair to prime.	4 1/2 @ 5 1/2
Peanuts, Eastern, hand-picked.	5 1/2 @ 6 1/2

Wine.

The wholesale wine market is showing the same quiet condition as previously noted, which is usual for this time of year. Prices of dry wines of 1902 vintage remain nominally quotable at 15@18c per gallon wholesale, but there is not much offering at this range. Values for 1903 wines are yet undetermined. The yield in most sections is turning out larger than was generally estimated, and the quality was probably never better, the season having been decidedly favorable for the perfect maturing of grapes. Receipts of wine at this port last week were 242,610 gallons and for preceding week were 357,400 gallons.

MALTHOID ROOFING



Made of felt, thoroughly saturated with P & B compound. Not impaired by varying temperatures. Does not evaporate, crack, expand or contract. A low priced roofing that cannot be equaled. Send for booklet.

The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



THE CUTTER LABORATORY

Is located in Berkeley, where is also located the University of California, to which Professor Loeb, the eminent worker in biological sciences, recently came, because of its unequalled climate for laboratory work, leaving, to come here, a higher salaried chair in the University of Chicago.

OUR BUILDINGS are on the shores of San Francisco bay, just opposite the Golden Gate, through which, and across the cold waters of the bay, comes to us a steady, germ-free breeze off the broad Pacific.

Never hot in summer, or cold in winter, the laboratory processes and experiments on animals may be carried on uninterruptedly the year round, and in this respect our laboratory is probably the best situated of any in the world.

It is equipped with the most efficient construction of modern apparatus and instruments.

OUR SPECIAL LINES OF WORK are the DIAGNOSIS and INVESTIGATION of all contagious and infectious diseases of man and animals, and the manufacture of BIOLOGICAL PRODUCTS, Serums, Vaccines, Toxines, etc., for the prevention and cure of disease.

In the manufacture of these products there are certain recognized standards of strength that all workers strive to attain. To reach them is difficult, and to maintain them is even more difficult. The price of reaching and maintaining them is constant, painstaking and conscientious watchfulness, and the measure of value of any concern's products rests, therefore, on the HONESTY AND COMPETENCY of its laboratory force and the policy of the management. For ourselves, we can say that both laboratory and management are instinctively committed to the policy of mixing the best that is in us with what we offer for sale, and intending users of vaccines and similar products may rest assured that with us "physiologically tested" is something more than an advertising catch phrase. It means rigid testing—not on a few laboratory animals (mice, guinea pigs and rabbits) but on a number of such animals and also on the larger animals on which the article is destined to be used. Only when an article meets such tests successfully is it offered for sale. But testing does not stop here—stock on hand is tested at frequent intervals and any that has fallen away from standard is at once destroyed.

ASIDE FROM THE FACT THAT WE SELL THE BEST VACCINES MADE, at a price as low as competitors, we believe we are entitled to the stockmen's support, because WE ARE CONSTANTLY STRIVING TO DISCOVER NEW AND TO IMPROVE OLD REMEDIES and processes for combating stock diseases.

CUTTER'S BLACK LEG ANTHRAX VACCINES.

CALIFORNIA'S FAVORITES.—THE LOWEST-PRICED RELIABLE VACCINES.

CUTTER'S BLACK LEG is the most favorably known vaccine in use in California to-day. Eighty per cent of vaccinating stockmen use it—a canvas of your neighbors will confirm this statement—with results entirely satisfactory.

It is put up in Powder, String and Pill Form. We recommend the Pill as being safer and more easily used than either the Powder or String Vaccine. Write for description of it and special Black Leg Pill Injector.

SAMPLE TESTIMONIALS.

Office of Cone Ranch Company, Red Bluff, Cal., Oct. 6, 1903. The Cutter Analytical Laboratory, San Francisco, Cal.

Gentlemen:—Referring to your favor of recent date, would say that we have found in our experience of nearly three years in the use of your Black Leg Vaccine, that the results have been very satisfactory. We have vaccinated from 500 to 750 head each season, and each time after some deaths had occurred from Black Leg, and in every instance the disease stopped immediately after vaccination. Having given your vaccines such a trial, it gives us pleasure to recommend them to fellow stockmen. Respectfully,

CONE RANCH CO., T. H. Ramsay, Mgr.

Courtland, Nov. 3, 1903.

The Cutter Analytical Laboratory, San Francisco, Cal.

Dear Sirs:—I have used your Black Leg Vaccine for the last three years, with very gratifying results. Have never lost any cattle from Black Leg, but have used your vaccine as a preventive. I generally vaccinate about thirty head of young cattle annually. Mr. Ed. Johnson, a neighbor of mine, lost seventeen head out of twenty-five. After losing this number, he sent and got your vaccine, and has had splendid results since that time. I cannot say too much in behalf of your Black Leg Vaccine. Please send me enough of your powdered Black Leg Vaccine (single) for twenty head. Yours very truly,

J. M. BUCKLEY.

CUTTER'S ANTHRAX (or Charbon) VACCINE has been used in large quantities this season in herds in which disease had already broken out, and has not failed in a single instance to check the progress of disease.

PRICES:

CUTTER'S ANTHRAX VACCINE (Double), per two bulbs, containing ten complete doses for double vaccination of cattle, mules or horses; or twenty doses for double vaccination of sheep or goats.	\$ 1 50
CUTTER'S ANTHRAX VACCINE (Single), per single bulb containing ten doses for single vaccination of cattle, mules or horses; or twenty doses for single vaccination of sheep or goats.	1 00
SPECIAL SYRINGE for using Anthrax Vaccine.	3 00

CUTTER'S BLACK LEG VACCINE.

POWDER AND PILL FORMS.

SINGLE, per package containing ten doses.	\$ 1 00
DOUBLE, per double package containing ten doses (for first and second vaccination of choice stock).	1 50
STRING FORM.	
SINGLE, per package of ten doses, including needle.	\$ 1 00
Per package of fifteen doses, including needle.	1 50
Per package of twenty-five doses, including needle.	2 25
Per package of fifty doses, including needle.	4 00
DOUBLE, per package of ten doses (including needle for first and second vaccination of choice stock).	1 50

BLACK LEG VACCINATING OUTFIT.

Complete, including syringe, two mixing bottles and extra needles, for using Single or Double Powder Vaccine.

BLACK LEG PILL INJECTOR.

For injecting Pill Vaccine under the skin; very strongly made and easiest used of any on the market.

DISCOUNTS.

100-dose lots.	10% off list prices.
250-dose lots.	20% off list prices.
500-dose lots.	25% off list prices.

OUR PRODUCTS ARE STOCKED BY DRUGGISTS.

WARNING! Stocks of our vaccine in the hands of dealers should be fresh, for we exchange new for old vaccine. This provision for exchange sometimes leads unscrupulous dealers to try to substitute other vaccines when ours is called for. They do this when they have on hand old vaccine of other makes which they cannot exchange for fresh, or when they have vaccine on which they make a greater profit.

If your druggist has not got our Vaccine, or if he tries to sell you some other, refuse to take it and order direct from us. We pay all charges, including charge for return of money by express. Write for our Black Leg and Anthrax booklets. Address

THE CUTTER LABORATORY, ROOM 322B, RIALTO BUILDING, SAN FRANCISCO, CAL.

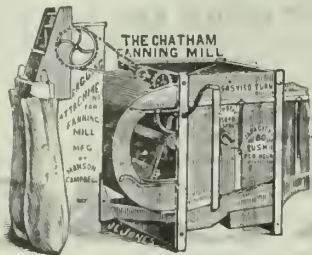


## SHARPLES TUBULAR CREAM SEPARATORS

A dozen bucket bowls but only one

### Tubular.

We alone make the Tubular, all competitors make the old style bucket bowls. They cannot make tubular bowls because of our patents. The Tubular is worth fifty per cent more than any of the old style bucket bowl separators, as thousands of dairymen will testify. Write for Catalogue No. 131 THE SHARPLES CO., P. M. SHARPLES, Chicago, Illinois, West Chester, Pa.



The above cut represents the "Famous" Chatham Fanning Mill with Sacker Attached, which won the First Prize at the State Fair, Sacramento, Cal., this fall.

## Clean Your Grain for Seed.

Foul seeds and cracked grain require just as much time to put into the ground and just as much room in the ground.

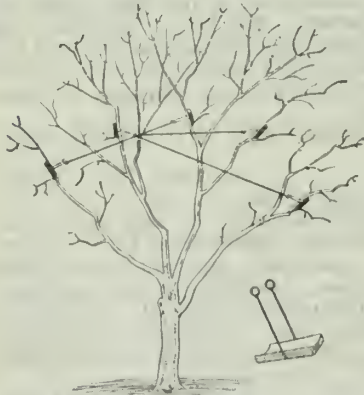
This machine will clean any kind of grain, taking out all foul seeds, separating oats from wheat, cleaning and grading barley, cleaning alfalfa. We have special screens for cleaning all sizes of beans. Over one thousand of these Fanning Mills now in use in California.

Send for one of our beautiful circulars, telling you how to make "Dollars Out of Wind."

We pay all freight.

**GEO. W. FOOTT,**  
General Agent, VENTURA, CAL.

## SOMETHING NEW UNDER THE SUN.



### A Cheap, Effectual and Permanent Method of Propping Trees.

Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

**HOYT'S TREE SUPPORT CO.**  
WATSONVILLE, CAL.

Or, **R. M. TEAGUE,** San Dimas, Cal.  
Distributor for Southern California.

## WE ARE THE OLDEST SCALE MANUFACTURERS IN THE WEST.

(Incorporated in 1881.)

We have REDUCED PRICES 25%, and have retained the STANDARD that has made our goods so popular. We ship on approval. We pay the freight. We do repairing. We do as we say—save you MONEY on steel and wood frame SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLICERS, HARNESS, Patent Specialties, Etc. Investigate.

**UNION SCALE CO.,**  
Dept. 17, DES MOINES, IA.

**CHEAP RATES** California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)  
**TRANS-CONTINENTAL FREIGHT CO.**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

## Farmers' Club's Institute in San Diego.

This important annual meeting will occur at San Diego December 2-4. The people of San Diego are making a great effort and will do all that is possible to secure a large local attendance which they promise will not be even second to that of the Pomona meeting. These meetings have become an important factor in the agricultural extension work which our great university is pushing with so much of wisdom and energy. No one can measure the good that will come from these meetings and from the Summer School or Seaside Institute. As an added inducement to attendance, the good people of San Diego have planned a boat ride on the bay and an evening banquet during the session. It will be seen by the subjects and array of bright, able speakers that the programme will be one of unusual excellence. It is hoped and desired that every club in southern California will be represented by a large delegation. In this way the meat of the occasion will be carried back to the clubs and the value of the meetings be greatly increased. A great effort is being made to secure the publication of the proceedings in full, giving in detail the discussions. This is a large undertaking and we may not be able to succeed.

The following persons are expected to be present and take part in the programme: Dr. and Mrs. Sherman of Fresno; F. Kahle of Santa Barbara; Hon. Mr. Cannon and C. C. Teague of Ventura county; Hon. Mr. Camp and Dr. John R. Haynes of Los Angeles; Mr. Dwight Griswold, the strawberry king, of Tropic; Mr. Ernest Braunt of Glendale; Mr. Frederick Masker of Long Beach; Mr. C. A. Day of Pasadena; Commissioner Pease, Dr. Reid and Mr. Hoffman of San Bernardino county; Messrs. Mills and Little of the Arlington Heights orchards, Riverside; also J. H. Reed of the same city; Messrs. Chapman and Taft and Professor Pierce of Orange county; Mr. J. W. Mills of the Experiment Station; and Messrs. Austin, Copeland, Allen and Culbertson of San Diego county. The subjects to be discussed are all live ones, such as vitally concern the orchardists of this part of the State.

Other Institutes will be held as follows in which Dr. and Mrs. Sherman will take part, with other able speakers: Clearwater, Nov. 27; Compton, Nov. 28; Chino, Nov. 30, and El Monte, Dec. 1.

**A. J. COOK,**  
Conductor of Farmers' Institutes for Southern California.

### Preparing Poison for Gophers.

Most poison formulas call for large quantities of corn or wheat, so I went to the trouble to figure out the amount for one pint of corn. First take five teaspoonfuls of vinegar and have ready one-seventh of a teaspoonful of sulphate of strychnine. When the vinegar comes to a boil add the strychnine and stir with a stick till it is all thoroughly dissolved. Strychnine cannot be thoroughly dissolved in water. Now add to this compound of vinegar and strychnine one-half pint of warm water. Pour this upon a pint of corn and let soak for eighteen hours.

Then pour over it a syrup made in the following manner: Dissolve one-half pint of sugar in one pint of water and let it boil down one-third. Cool it and add a few drops of annis oil which may be obtained at any drug store. The oil emits an odor attractive to the gopher and other pests. Spread the corn out to dry in a safe place and when sufficiently dried keep in a tight jar with a screw cover or a bottle. One grain contains enough poison for a gopher.

To determine quite accurately one-seventh of a teaspoonful of strychnine fill the spoon first with meal or dirt and divide as nearly as may be into seven equal piles. Then put one of the piles into a teaspoon and put as much strychnine in another spoon. Of course if one has fine scales the proportion could be obtained by weight; but farmers frequently have nothing better in this line

than a pair of spring scales more or less inaccurate. For a quart of corn or wheat twice the given amounts could be used, although the common pint tin must be taken as the standard of measurement.—B. F. Powers.



### The Pedestal of Fame.

We are not great statesmen, inventors or conquering heroes, but we may lay modest claim to being benefactors to humanity. For a long term of years we have been making

## KENDALL'S SPAVIN CURE

and supplying it to suffering horsemen all over the country. It has been found to be the only perfectly reliable remedy for Spavin, Kingbone, Curb, Splint and all forms of Lameness. It is undoubtedly the best known and most largely used veterinary remedy in the world. Thousands of people write us such letters as this about it:

Stands at the Head, Used 25 Years.

Worcester, Mass., Nov. 17, 1902.

Dr. B. J. Kendall Co.,

Gentlemen:—Will you kindly send me one of your books entitled "A Treatise on the Horse and his Diseases." My experience teaches me that Kendall's Spavin Cure is a liniment for man or beast stands at the head. I have used and seen it used successfully all of twenty-five years.

Very truly yours,

**G. W. McHENRY.**  
For sale by all druggists. Price, \$1.50 per box. As a liniment for family use it has no equal. Ask your druggist for KENDALL'S SPAVIN CURE, also "A Treatise on the Horse," the book free, or address  
**DR. B. J. KENDALL CO.,** Enosburg Falls, Vt.

## California's Finest Holsteins

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records.  
Young Bulls for sale.

**PIERCE LAND AND STOCK CO.,**  
No. 14 Turk Street, San Francisco, Cal.

## FOR SALE, One French Draft Stallion.

Age, 7 years; color, bay; weight, 2200 lbs.

## YOUNG FRENCH DRAFT MARES,

In foal, both registered and graded.

ADDRESS BOX 345, VACAVILLE, CAL.

## FOR SALE, Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bul calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. **J. W. McCORD,** Hanford, Cal.

## BULLS FOR SALE, Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at

**CHOWCHILLA STOCK FARM.**

Address... **ISAAC BIRD,** Merced, Cal.



Thoroughbred Scotch Collies

**TOKAYANO KENNELS**

Colfax, Placer Co., Calif.

## Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY  
**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery Street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**BULLS AND COWS FOR SALE** Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHBRED POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antelope, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP AND GOATS.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in Poultry Supplies of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2802, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**BUFF COCHINS. SILVER GRAY DORKINGS.**

Only highest quality. First prizes won at several shows. Eggs \$2.00, express prepaid. White fantail pigeons. **HARRY MCINTIRE,** San Diego, Cal.

## AUTOMOBILES

### AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

**BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!**

### MOTOR VEHICLE CO.

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.





**XMAS GIFTS FOR ALL.**

*The Special Displays of Holiday Merchandise, and the savings to be made in California's Grandest Christmas Store, are worth traveling many miles for.*

**The Emporium**  
San Francisco California.

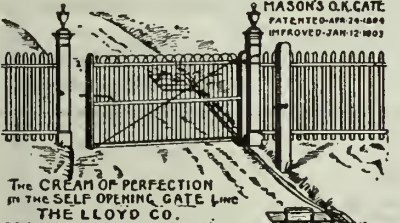


**California Business College**  
*A Thorough School*

**A Position or Your Money Back.**

A business education pays when you can turn it into cash. We want to help you make it pay. With over 500 positions to fill a year, and with the income from 400 students behind us, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

**R. L. DURHAM,**  
305 Larkin St., San Francisco, Cal.



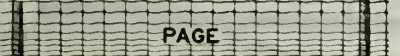
**MASON'S GATE**  
PATENTED APR 24-1890  
IMPROVED JAN 12-1903

The CREAM OF PERFECTION IN THE SELF OPENING GATE. THE LLOYD CO. SOLE AGENTS AND MANUFACTURERS. PETALUMA, CAL. WAITS FOR OUR CATALOGUE.

**WIRE FENCE**

HOG CATTLE POULTRY NETTING BARB WIRE

**WEST COAST WIRE & IRON WORKS**  
19 FREMONT ST., SAN FRANCISCO.



**PAGE**

**THE SAVING**

in posts, staples and labor pays the difference in price, and then it lasts so much longer.  
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.**  
113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. A. VAN DER NAILLEN, Pres't.  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

**WANTED, SMALL OR LARGE SECOND-HAND OLIVE CRUSHER.**  
Address F. M. ROESSLER, FRESNO, CAL.

**Fair Prices for Land an Aid to Development.**

To THE EDITOR:—Some time ago you referred briefly to the remarks made in Eastern papers about California's downhill course, as pictured by our county assessors. The matter has already been duly explained by different parties, but the matter of land prices deserves more particular mention. Would it not be well for our Promotion Committee to explain that the reduced price of land throughout the State is not a calamity, but a blessing? Large tracts of land, formerly held by hands rich enough to not sell unless at fancy figures, are now to be had at a fair price by force of circumstances, or as logical result of unsuccessful waiting. About a dozen years ago some of my countrymen bought land in Merced county for \$160 per acre, and orchards in Santa Clara county for \$1000 per acre and over, and what little good those fancy prices may have brought to a few, they brought a thousand times more harm to many. The building up of any State, or community, or any industry for that matter, along boom lines, is a curse. To-day that property can be had for little more than half the price of twelve years ago, and every well wisher of this glorious country should rejoice at the fact. Too many of our fruit and vineyard lands have been purchased on the watch spring proposition. Some sharp fellow sells, to a softy, a pound of steel for \$50. Softy goes home delighted and shows his treasure to a neighbor, who thinks it rather an expensive piece of steel. "What," cries Softy, "it's cheap, man, cheap as dirt. When I get this made into watch springs I can get \$1500 out of it. Think of it, and \$50 is all I paid for it!"

Now it is a well-known fact that some real estate agents are honest men, but their well-known method of applying the multiplication table has been a delusion and a snare for many a new comer.

Just jump into my buggy and I shall show you something that will open your eyes as to the profits of fruit growing. See that apple tree? That tree brings its happy owner from thirty to forty boxes of apples each season, and dozens of our best citizens will tell you that this is gospel truth. Now, then, let us make a little calculation. Apples are worth from six bits to a dollar a box, but let's be conservative and call it 50 cents, which, for thirty boxes, is \$15. That's right, isn't it? Now, then, you plant about seventy apple trees on an acre, and seventy times fifteen makes \$1050. That's right too, isn't it? Now, listen to me. I can sell you just as good land as this, land that will grow just as good fruit, and as much of it, for only \$300 per acre. A perfect snap, my dear sir, and so on.

But the intervening eight or ten years, before a full crop is gathered, while wife and children must be fed and clad during all that time, that some trees die, that moths or caterpillars destroy the fruit when grown, that part is unsalable because undersized or blemished, all the hundred and one things of common occurrence against the phenomenal ten that may be, but seldom are, remain outside of the calculations. Now, if land can be purchased at its actual value, that is, according to its net production under well directed effort and good management, there is no harm done. But every dollar paid for it beyond this is speculative value, and, as such, liable to become a total loss.

E. C. W. MACDONALD.  
Aptos, Santa Cruz county.

ADVERTISER owns fully equipped poultry plant. **Wants Man Partner** who understands the business with \$200 to invest. S. C. White Leghorns' eggs \$1.00 per setting, \$6.00 per 100. Stock for sale. Address G. S. BOLCE, Natividad, Monterey county, Cal.

**Cocoanut Oil Cake.**  
**THE BEST FEED FOR STOCK, CHICKENS AND PIGS.**  
For sale in lots to suit by  
**EL DORADO LINSEED OIL WORKS CO.**  
208 California St., San Francisco, Cal.



**Don't Blame the COW**  
you probably need a **U.S.**

**CREAM SEPARATOR**

If you keep cows and have no U. S. Separator you are losing money that might be saved. Without a U. S. you cannot get all the cream, besides the product of the U. S. commands a higher price. Order at once, stop your losses and increase your profits.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Write for illustrated catalogues

**Vermont Farm Machine Co., Bellows Falls, Vt.**

**No Expensive Special Tools**  
are required to erect the **Truss and Cable Fence**

Many field or netting fences require considerable skill and expensive machinery to put them up, while with ours neither is necessary. A novice can erect a truss and cable fence as well as an expert can the other kind and can put up a hundred yards in about half the time. We have a simple and inexpensive stretcher that is made to facilitate the handling of truss and cable wire but it is not necessary as any other stretcher may be used.

Write for descriptive circular.  
**PACIFIC HARDWARE & STEEL CO.**  
401 Mission Street, San Francisco.

**HEALD'S**  
**BUSINESS COLLEGE,**  
24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago. : : : :  
ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.



**FOUND \$7.**  
**FOR**  
**A CREAM SEPARATOR**  
that does the work perfectly. AUTOMATICALLY, without power or chemicals, in 30 minutes. **GUARANTEED.** Agents wanted, either sex. Address **TALLEY SPECIALTY CO.,** Dept. G Los Angeles, California.



**THE ARNDT Tree Protector!**

A perfect, inexpensive protection against all creeping and crawling insects. Agents Wanted Everywhere. **WRITE AT ONCE.** Michigan Cut Flower Exchange. WM. DINGER, Mgr. Sole Distributors, DETROIT, MICH., U. S. A.

**Hunters' & Trappers' Guide** \$5.00. 300 pages, cloth bound. Illustrating all fur animals. All about trapping. Trappers' Secrets, all kinds of traps, decoys, etc. Special Price \$1. to fur shippers postpaid. We buy Raw Furs, Hides. Price List free. **ANDERSON, 808 S. 3rd St., Minneapolis, Minn.**

**PATENTS**

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, our Washington branch which tends exclusively to our business before the Patent Office, intimate acquaintance with the subjects of inventions in our own community, and our most extensive reference library, containing official American reports since 1790, with full copies of U. S. Patents since 1872. All worthy inventions patented through **DEWEY, STRONG & CO.'s** Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We are conservative and counsel preliminary examinations in cases of doubtful novelty. Guide to inventors sent on request.

**DEWEY, STRONG & CO.**  
(ESTABLISHED 1860.)  
**PATENT AGENTS.**  
330 Market St., San Francisco, Cal.  
—AND—  
918 F St., Washington, D. C.

**A Constant Force**

on the nozzle, a fine spray and thorough agitating of the mixture, all from driving along the orchard row, with

**WALLACE'S POWER SPRAYER**

It fits any wagon gear and attaches to any shape supply tank. Saves 25% of liquid and half the labor of operating. High pressure through compressed air—enough to keep two 4 point Vermorel nozzles going. Only hand work is directing the nozzle.

Write for free booklet at **WALLACE MACHINERY CO.,** Champion, Ill.



**CRONK'S Improved Staple Puller**  
11 in. long  
**IS AT THE FRONT.** Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull staples when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid **CRONK & CARRIER MFG. CO.,** Elmira, N. Y.



## FRUIT MARKETING.

### Shipping Bartlett Pears to European Markets.

Mr. S. H. Fulton of the United States Department of Agriculture writes about shipping Eastern grown Bartlett pears from the East to Europe, and as the account contains many references to California it is decidedly interesting local reading.

**COLD STORAGE.**—The effects of the wrapper upon the keeping quality of Bartlett pears put into cold storage was not so pronounced as general impressions would lead one to expect. However, whenever a difference existed it was always in favor of the wrapped fruit. But another point of importance relative to the value of the wrapper was observed. The wrapped fruit colored more evenly and clearly in storage than did the unwrapped, and was entirely free from discoloration, from bruising and chafing, which the unwrapped fruit showed to some extent, in all packages. Two kinds of wrappers, common print paper and California fruit paper, were used. Between the two kinds there was no difference so far as the keeping of the fruit was concerned.

Five weeks from the date of storage the pears were consigned to a commission merchant of Buffalo, who removed the fruit from the storage house and offered it for sale. The fruit which was still firm and sound when removed from storage handled well, and as the weather at this time was cool, ripened slowly. That which was fully ripe and only moderately firm when removed from the storage house soon commenced to deteriorate. Had the weather been warm at this time, it is doubtful if some of the riper lots would have held up long enough to be disposed of.

The summarize briefly, the logical conclusions to be drawn from this test appear to be as follows: 1. A temperature of 32° is conducive to the long keeping of Bartlett pears in cold storage, while a higher temperature correspondingly shortens the keeping period, particularly if the fruit has been subjected to more or less delay in storing; 2. the ventilated crate is the most desirable package for general use in the cold storage of Bartlett pears. For carefully selected wrapped fruit, however, the fourty-pound box is a highly satisfactory package. The barrel is too tight a package and contains too great a bulk of fruit and consequently should not be used. 3. Delay in storing is disastrous to the keeping of Bartlett pears in cold storage; 4. the wrapper protects the fruit from bruising and chafing, causes it to color more evenly and is slightly beneficial to the keeping quality of the fruit; 5. Bartlett pears should not be held too long in cold storage, but should be removed while still hard and sound, and allowed to ripen out of storage. If allowed to become fully ripe in the storage house the fruit deteriorates rapidly upon removal from storage and is apt to become soft and worthless before it reaches the customer. During the past ten years a considerable export trade in California Bartlett has been developed as a result of conditions similar to those which have existed in the Eastern States. Eastern growers and dealers have, however, been deterred from undertaking systematic exportation of this fruit through the belief that certain difficulties exist which would make the enterprise "unprofitable, or at least extremely hazardous. Some of the more important of these difficulties appear to be the perishability of the Eastern grown Bartlett, lack of available refrigerated space in the compartments of ocean steamers and uncertainty regarding the requirements of the European trade in this fruit.

**TRIAL SHIPMENTS.**—With a view of securing information upon these and other points concerning which doubt

existed, the shipments last season and those of 1901 were made. At the 1902 winter meeting of the New York Fruit Growers' Association the outcome of the first shipment was given in detail by Prof. W. A. Taylor, pomologist in charge of field investigations, United States Department of Agriculture, under whose supervision these shipments have been made. As shown by Prof. Taylor at that time, the results were highly satisfactory. The fruit landed in perfect condition, and netted the growers considerably more than the home market price.

### New Subscriber Finds Value in the Rural.

**TO THE EDITOR:**—Please renew my subscription to the PACIFIC RURAL PRESS. I have been a subscriber to your valuable paper just one year. I have not been in California very long and I have much to learn, and the PACIFIC RURAL PRESS is my best source of information. When I have had puzzling questions I have written them to you and you have cheerfully, carefully and fully answered them. I especially thank you for your splendid article on alfalfa bloat in cattle, which subject you so fully treated in your last issue.

HARRY D. WILLIAMS.  
Sacramento Co., Cal.

## BRIGHT'S DISEASE AND DIABETES NEWS.

San Francisco, Nov. 20, 1903.

To the Farmers of California:

As San Francisco druggists personally acquainted with the facts we are asked to certify to you the curability of chronic Bright's Disease and Diabetes, and however unreasonable it may seem to you yet such is the fact. Up to a year ago we never heard of a genuine case of Bright's Disease or Diabetes recovering. Now it is a common occurrence in this City. A great discovery has undoubtedly been made. Many prominent people here have recovered and every one of us whose names are appended hereto have either had recoveries among our customers or have genuine chronic cases now recovering. And the percentage of efficiency seems to be very high, for there are very few failures.

Yours, &c.,

Ferry Drug Co., Lion Drug Co., Rialto Drug Co., E. W. Joy, C. F. Fuller, Green & White, Kilbourne's Pharmacy, Haman's Pharmacy, A. Di Nola, A. O. Schmidt, Kibbler's Pharmacy, Owl Drug Co., Central Pharmacy, Depot Pharmacy, Potts Drug Co., B. S. Dickhoff, F. A. Gay, C. D. Zeile, C. B. Pooler, N. Schwartz, A. E. Scammell, and many others.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes.

Send for literature to the JOHN J. FULTON CO., 407 Washington Street, San Francisco.

Telephone Main 199.

**BLAKE, MOFFITT & TOWNE,**  
DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE..... Los Angeles.  
BLAKE, McFALL & CO..... Portland, Or.

**THE SAN GABRIEL VALLEY HERD OF**  
Ohio Poland-Chinas won 10 premiums at the State Fair at Sacramento in 1903; won gold and silver medal. Young stock for sale. W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING NOVEMBER 10, 1903.

743,413.—ORE SEPARATOR—J. W. E. Allen, S. F.  
743,673.—BENCH STOP—H. W. Baltz, Wyandotte, Cal.  
743,807.—TOOL BOX—J. Begg, Ventura, Cal.  
743,681.—SECTIONAL CAM—A. P. J. Bossell, Angels Camp, Cal.  
743,817.—DENTAL BRIDGEWORK—F. A. Brewer Sr. & Jr., Watsonville, Cal.  
743,821.—BOTTLE WASHER—W. E. Brown, Los Angeles, Cal.  
743,690.—SAFETY PIN—Casper & Gerder, Sacramento, Cal.  
743,973.—BALING PRESS—Coad & Biddle, Dallas, Or.  
743,976.—OIL BURNER—L. E. Coleman, Santa Ana, Cal.  
743,696.—ATOMIZER—A. S. Dixon, Los Angeles, Cal.  
743,697.—ATOMIZER—A. S. Dixon, Los Angeles, Cal.  
743,698.—CULTIVATOR—H. Downer, Grant's Pass, Or.  
743,840.—SNATCH BLOCK—F. M. Eby, Cottage Grove, Or.  
743,848.—BAG HOLDER—J. W. Fiddes, Tacoma, Wash.  
743,979.—HYDRAULIC ELEVATOR—B. Flood, Los Angeles, Cal.  
743,705.—PISTON AND PACKING—C. P. Fogh, Wadsworth, Nev.  
743,490.—COMPASSES—J. W. Griffith, S. F.  
743,981.—LAND MARKER—J. E. Hagen, Santa Monica, Cal.  
743,864.—LOCOMOTIVE PILOT—E. R. Halesworth, San Bernardino, Cal.  
743,639.—DRILL—L. A. Hardison, Santa Paula, Cal.  
743,745.—CAN OPENER—H. B. Landis, Trail, B. C.

743,535.—CULTIVATOR—J. H. Martin, Riverside, Cal.  
743,905.—ROOFING TILE—A. H. Memmler, Los Angeles, Cal.  
743,742.—FISH CUTTING MACHINE—W. Munn, S. F.  
743,916.—AIR BRAKE—H. F. Ong, Wendling, Or.  
743,751.—DREIGER—R. A. Perry, Oakland, Cal.  
743,752.—SEPARATOR—W. G. Read, Davisville, Cal.  
743,840.—OIL BURNER—H. L. Sherwood, Oakland, Cal.  
743,769.—HEATER—Tabrett & Lewin, S. F.  
743,744.—WINDLASS—J. O. Toole, Butler, Nev.  
743,777.—OIL BURNER—Tucker & Grundel, S. F.  
743,596.—MECHANICAL MOVEMENT—L. R. Tulloch, Angels Camp, Cal.  
743,783.—RAIL JOINT—R. J. Weken, Everett, Wash.  
743,965.—SNATCH BLOCK—D. E. Welsh, Cottage Grove, Or.  
743,787.—VALVE—G. G. Wiekson, S. F.  
743,609.—PAPER HOLDER—C. O. Young, Rialto, Cal.

## THE NEW EGG FARM.

By H. H. STODDARD.

A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc. 12mo., 331 pp., 140 original illustrations cloth. Price, \$1 postpaid.

PACIFIC RURAL PRESS.

330 Market St., San Francisco, Cal.

**IF** You vaccinate your stock,  
You contemplate vaccinating,  
You desire information about vaccines,

**WRITE US.**

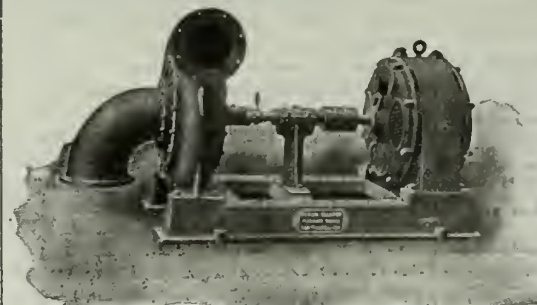
OUR VACCINES ARE THE LOWEST PRICED, RELIABLE GOODS ON THE MARKET.

The United States Vaccine Company, Inc.

Kirke, Geary & Co., Sacramento.  
Western Wholesale Drug Co., Los Angeles.

FRESNO, CAL.

**Black Leg Vaccine**  
**PASTEUR VACCINE CO.** CHICAGO  
SAN FRANCISCO.



Jackson Patent Special Horizontal Centrifugal Pump Direct Connected to Motor.

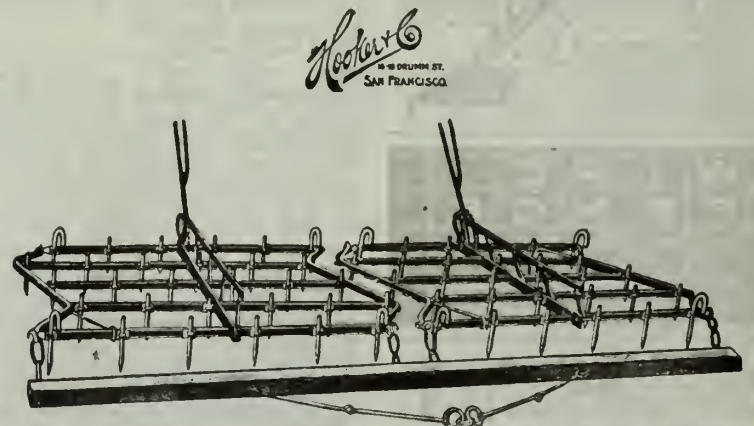
**WONDER OF THE AGE.**

JACKSON'S LATEST IMPROVED CENTRIFUGAL PUMP for raising water from 10 feet to 2000 feet.

Efficiency 70 to 84%, if properly installed.

For irrigating, reclamation, mining, etc.

BYRON JACKSON MACHINE WORKS,  
411 Market St., San Francisco.



**Orchard Lever "U" Bar Harrow with Channel Frame.**

For orchard work we furnish guard rails on outer sides to prevent injury to trees.

**THE STRONGEST ORCHARD HARROW MADE!**

**Hooker & Co.**

16 & 18 DRUMM ST., SAN FRANCISCO.

## DON'T BUY GASOLINE ENGINES

one-cylinder engines. Cost less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.

until you have "The Master Workman," investigated a two-cylinder gasoline engine, superior to all others. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.

**PRACTICAL ORCHARDIST**  
would like position as Foreman: 15 years' experience in growing and curing deciduous fruits. Best of references.  
C. E. BURNS, Fremont St., San Jose.



## Seeds, Plants, Etc.

WE MAKE A SPECIALTY

—OF THE—  
GENUINE COMMERCIAL

## Smyrna Fig Tree.

Our price is \$15.00 per 100;  
smaller lots, 25c each.

We also have a large stock of Muir and Phillips  
Cling Peaches, Royal Apricots and Bartlett Pears,  
which we will sell at low figures. Send list of your  
wants and get our price.

MAYWOOD COLONY NURSERY,  
W. HERBERT SAMSON, Prop.

## Abundant Rains

Insures a good season for tree planting. The

## SEBASTOPOL NURSERIES

is the place to get **GOOD TREES.**  
WRITE FOR PRICE LIST.

T. J. TRUE, Sebastopol, Cal.

## BLUE GUMS. RED GUMS.

Monterey Cypress---Transplanted in Boxes.

WRITE FOR PRICES.

Delivered on Wharf in San Francisco.

W. A. REINHOLDT, Petaluma, Cal.

## RIVERSIDE NURSERY, 320 River Street,

Santa Cruz, Cal.  
1500 CHERRY TREES, \$15 PER 100.  
Lewellyn, Olympia, Napoleon, Royal Ann, Black  
Tartarian, Blackheart.

5000 APPLE TREES, \$10 PER 100.  
4 to 6 ft.; Extra Well Rooted; Clean.  
Yellow Bellflower, Y. N. Pippin.

Refer to City Bank,  
Santa Cruz. HENRY SHAW.

## Bargain in Citrus Trees.

We have for sale several thousand fine orange  
trees—leading sorts—for sale at special rates if  
taken before Dec. 1st. Headquarters for trees on  
trifoliata or frost resistant root.

WAGNER'S NURSERY,

Tel. Res. Sub. 108. PASADENA, CAL.

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries  
SPECIALTIES.

These Dewberries have produced over 5 tons of fruit  
on 1/2 acre. For descriptive list, address

W. J. EMBREE,  
Rural Box 61. El Monte, Los Angeles Co., Cal.

## COX

SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

## BULBS

Now is the time to plant

HYACINTHS, TULIPS, NARCISSUS,

SPANISH IRIS, RANUNCULUS,

ANEMONE, ETC.

Send for our Bulb Catalogue.



## A MONOGRAPH

ON THE

ORANGE AND LEMON

Is yours for the asking.  
It treats on planting, culti-  
vating, pruning, irrigating,  
harvesting the crop, and all  
the leading varieties. Fully  
illustrated with many fine  
half-tone engravings show-  
ing typical orchards, with  
a description of our meth-  
ods for producing vigorous  
citrus trees that will grow  
and are true to name.

SAN DIMAS CITRUS NURSERIES  
SAN DIMAS, CAL.

FOR SALE, Choice Tulare and Summit Lake

## ALFALFA SEED

Samples and prices granted on request.  
KUTNER-GOLDSTEIN CO., HANFORD, CAL.

ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most  
thoroughly meated cantaloupes. Price \$1.00 per lb.  
Special price in large quantities. You can't beat  
them. We grow the best. FARMERS' AND MER-  
CHANTS' BANK, Rocky Ford, Colo.

## OREGON NURSERY CO.

SOLE PROPRIETORS AND INTRODUCERS OF  
**BURBANK'S NEW PLUM-MAYNARD**

### THE GREAT FROST-RESISTING TILTON APRICOT

Also the most complete line of Deciduous  
Fruit, Shade and Ornamental Trees, Shrubs,  
Plants, etc., on the Pacific Coast. See our  
Traveling Salesman, or write for complete  
catalogue and price list. Address

## SALEM OREGON

No. 6—12th Street.

## Resistant Grape Vines.

—We are, and have been for some time, large growers of  
Resistant Grape Vines. Write for quotations on resistant  
grape vines grafted to the leading varieties of table and  
wine grapes. We shall be glad to supply you this season  
with anything you may want in the grape-vine line. You  
will find our stock right and the price right.

Finest and most complete Nursery Catalogue published  
mailed for 5 cents postage.

### Fancher Creek Nurseries, Inc.

Box 18, FRESNO, CAL.

GROWERS OF TREES AND VINES OF ALL SORTS.

# TREES. APPLE, PLUM, CHERRY, PRUNE, PEACH, APRICOT.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

# BULBS FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

TRUMBULL & BEEBE,

Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.

# California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

## CONTENTS.

Chapter.	Chapter.
I. The Climate of California and Its Local Modifications.	XXI. The Pear.
II. Why the California Climate Specially Favors the Growth of Fruits.	XXII. Plums and Prunes.
III. The Fruit Soils of California.	XXIII. The Quince.
IV. The Wild Fruits of California.	XXIV. Vine Propagating and Planting.
V. California Mission Fruits.	XXV. Pruning and Care of the Vine.
VI. Introduction of Improved Fruit Varieties.	XXVI. Grape Varieties in California.
VII. Clearing Land for Fruit.	XXVII. The Date.
VIII. The Nursery.	XXVIII. The Fig.
IX. Budding and Grafting.	XXIX. The Olive.
X. Preparation for Planting.	XXX. The Orange.
XI. Planting Trees and Vines.	XXXI. The Lemon, Lime, Etc.
XII. Pruning Orchard Trees and Thinning Fruit.	XXXII. The Banana, Loquat, Persimmon, Pine apple, Avocado, Etc., Etc.
XIII. Cultivation.	XXXIII. Berries and Currants.
XIV. Fertilizers for Fruit Trees and Vines.	XXXIV. Almond, Walnut, Chestnut, Peanut, Etc.
XV. Irrigation of Fruit Trees and Vines.	XXXV. Fruit Canning, Crystallizing and Drying.
XVI. The Apple.	XXXVI. Injurious Insects.
XVII. The Apricot.	XXXVII. Diseases of Trees and Vines.
XVIII. The Cherry.	XXXVIII. Injurious Animals and Birds.
XIX. The Peach.	XXXIX. Protection from Winds and Frosts.
XX. The Nectarine.	XL. Utilization of Fruit Wastes.

Price \$2.50, Postpaid Anywhere.

# CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

## CHICO NURSERY CO. (INC.)

We offer a full line of TREES, VINES (including  
RESISTANT GRAPE STOCK), ORNAMENTALS,  
BLACK WALNUT (Eastern and  
Californian), CAROLINA POP-  
LARS, etc., grown on virgin soil and  
free from bacterial or fungus diseases  
and insect pests. They are the kind  
that grow and PAY. Why not order  
early, plant early, and not get

swamped with work next spring?

CHICO NURSERY CO., 1200--3rd St.  
Chico, Cal.

# Fresno Nurseries.

ESTABLISHED 1889.

SPECIALTIES---DECIDUOUS FRUIT TREES AND ROOTED VINES.

APRICOTS, on Apricot, Peach and Myrobalan roots.  
PEACHES, on Peach and Almond.  
PRUNES, on Almond, Myrobalan, Peach and Apricot.  
ALMONDS, on Peach and Almond.  
NECTARINES, APPLES, CHERRIES, PLUMS, PEARS, FIGS, ETC.  
ROOTED VINES—Wine, Table and Raisin Varieties.

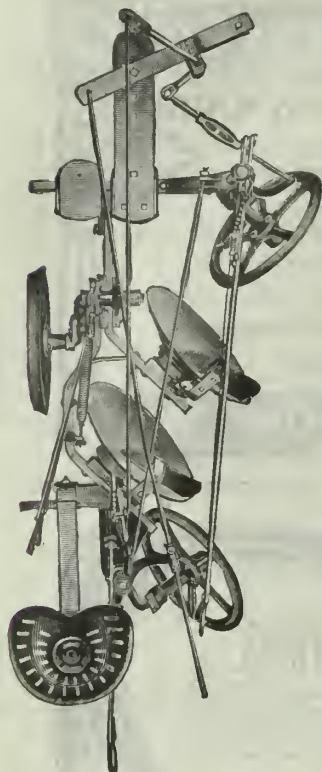
We Have the True Commercial Smyrna Fig.

SEND FOR PRICE LIST AND CATALOGUE.

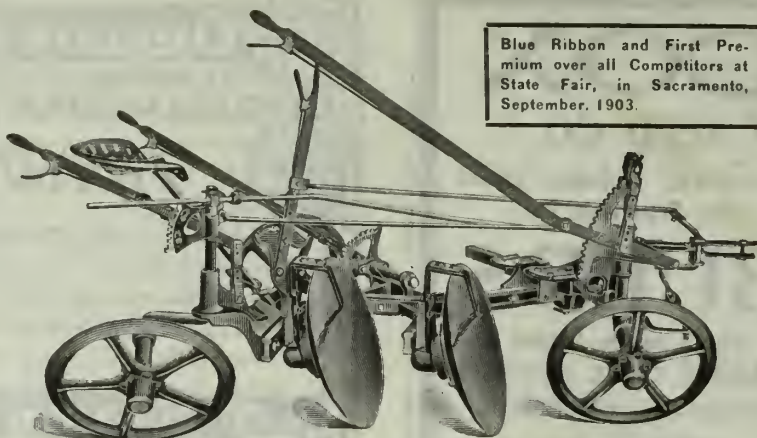
Address

FRESNO NURSERIES, F. H. WILSON,  
P. O. BOX 42, FRESNO, CAL. Proprietor.





LA CROSSE DISC PLOW.  
Orchard Style -- Top View.



LA CROSSE TWO-DISC PLOW (Field Style).

We can supply 1-2-3-4-5 or 6-Disc Plows.  
Notice the perfect land guage and leveling lever  
on rear wheel.

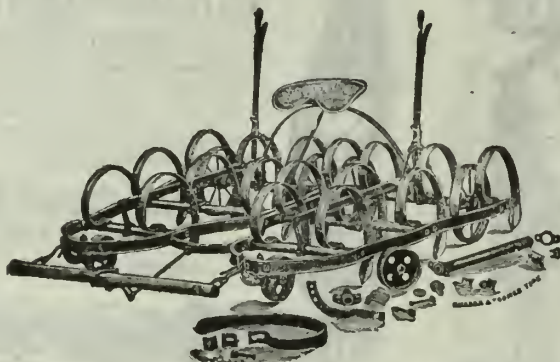
Blue Ribbon and First Premium over all Competitors at State Fair, in Sacramento, September, 1903.



"Canton Clipper" 2-Furrow Gang Plow



"Canton Success" Sulky Plow.



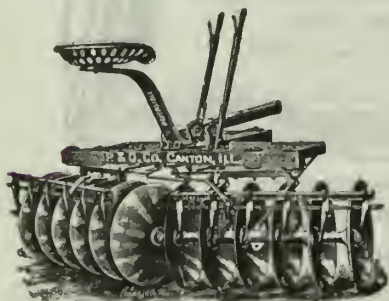
"York" Spring Tooth Lever Harrow, with Wheels



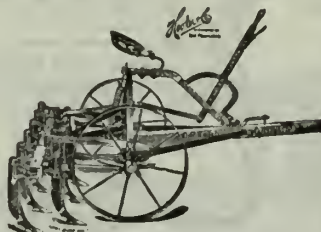
"Canton" Pony Disc Harrow.



No. 38--"H & B" Pony Orchard and Vineyard Gang Plow.



"Canton" Reversible Disc Harrow.



"Canton" Orchard Cultivator



"Kentucky" Disc Drill, Steel Frame.

**HOOKER & CO.**  
16 & 18 DRUMM ST.  
SAN FRANCISCO.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

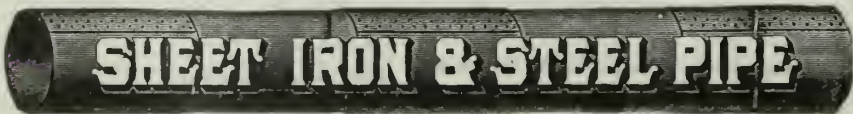
TAKES THE PLACE OF SHINGLES, TIN, IRON, TAR AND GRAVEL, and all prepared roofings.

For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed.

It will pay to ask for prices and information.

**THE ELATERITE ROOFING CO.,**  
713 Market Street, San Francisco.

**FRANCIS SMITH & CO.,**  
Manufacturers of



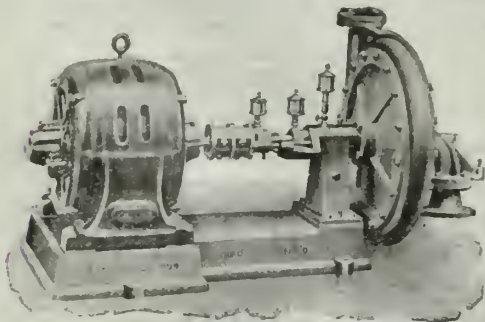
FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., All Sizes.

83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making pipe.

Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.



**TRIED  
AND  
TRUE  
KROGH  
PUMPS.**

First and last and always best for all kinds of work.  
Send for our Catalogue "L." Address  
**KROGH MANUFACTURING CO.**  
519 Market Street San Francisco.

**NATIONAL WOOD PIPE CO.**  
**WOOD PIPE.** Woodward Patent Machine Banded.  
Wheeler Patent Continuous Stave.

Los Angeles Office: 6th and Mateo Sts.

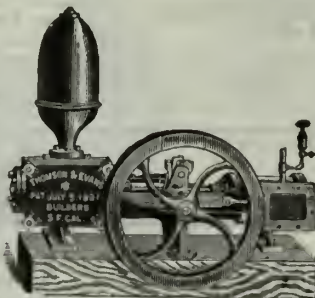
San Francisco Office: 301 Market St.

A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST.

## C. H. EVANS & CO. MACHINE WORKS.

Thompson & Evans  
Steam Pumps.

DEEP WELL AND  
POWER PUMPS.



Marine Engines

SHIP and STEAMBOAT  
WORK.  
Pipe Cutting, Etc.

183-185-187 Fremont St.  
San Francisco.



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO.,** Lockport, N. Y.

**California Spray Pump Co.,** Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

## HAVE YOU SEEN THE Jack of All Trades

—A GASOLINE ENGINE  
of the most modern type for farm use?  
Pumps Water—Saws Wood—Runs Separators  
Shells Corn—Grinds Feed—Churns Butter  
And is adapted to many other jobs on the farm.

Saves Labor—Earns Money  
Write for free descriptive catalogue "Fa."  
**Fairbanks, Morse & Company,**  
San Francisco, Los Angeles,  
Portland, Or.



**GREENBANK**

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 23.

SAN FRANCISCO, SATURDAY, DECEMBER 5, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## The Pacific Coast at the St. Louis Fair.

The Pacific coast States seem to be fairly awake to the importance of making a good display of this edge of the country at the St. Louis Fair. Now that all our great territory is in the full light of western attraction and popularity, it is more than ever important to show what we are, what we can do and what others can do by casting in their lot with us. This fact is being recognized and this coast will do more than it ever has done before at a national exposition.

We have on this page pictures of two Pacific States buildings now in process of construction at St. Louis. One is the California building which, as we have previously stated, is to be a replica of the Santa Barbara mission building in the southern part of the State. The area covered is about 100 by 140 feet. The plans show the big, arcaded cloisters, which are a marked characteristic of the California mission buildings. The architectural mass is concentrated in the center of the structure, and consists of two big bell towers, square in plan, tapering upwards in tiers to a lantern-crowned dome. Between these towers there is a pediment resting on an engaged colonnade. The towers are heavily buttressed at the ground line. Running from either side of this



California State Building at the St. Louis World's Fair.

towering construction is a lower building, two stories high, with an arcade and cloister on each floor. The arcade on the lower floor has semi-circular arches, while on the upper a solid entablature forms square openings in front of the cloister. The arcades and cloisters surround the buildings on three sides on two floors, supplying a cool promenade 11 feet wide.

The plans submitted show the arrangement of the two floors of the structure. The wings on either side are given up to offices and utility rooms, while the central portion on the lower floor has a large assembly hall, 48x43 feet, lighted from above, and a big exhibition hall back of this apartment. This hall, which is 48x25 feet, has a big, movable platform at one end, and is intended to house the displays which will be maintained by California in its State pavilion.

On the second floor of the building, above the assembly hall, is a roof garden, where California plants will supply shade for visitors. The assembly hall runs through two floors, and is surrounded on the second floor by a gallery, from which the functions to be held in the hall may be viewed by those who do not participate. The roof of has a skylight.

The State of Washington has projected a building which will show its lumber resources, and at the same time supply to its visitors a view of the main picture of the Exposition from the observation tower, 100 feet in the air, overtopping trees and adjacent buildings.

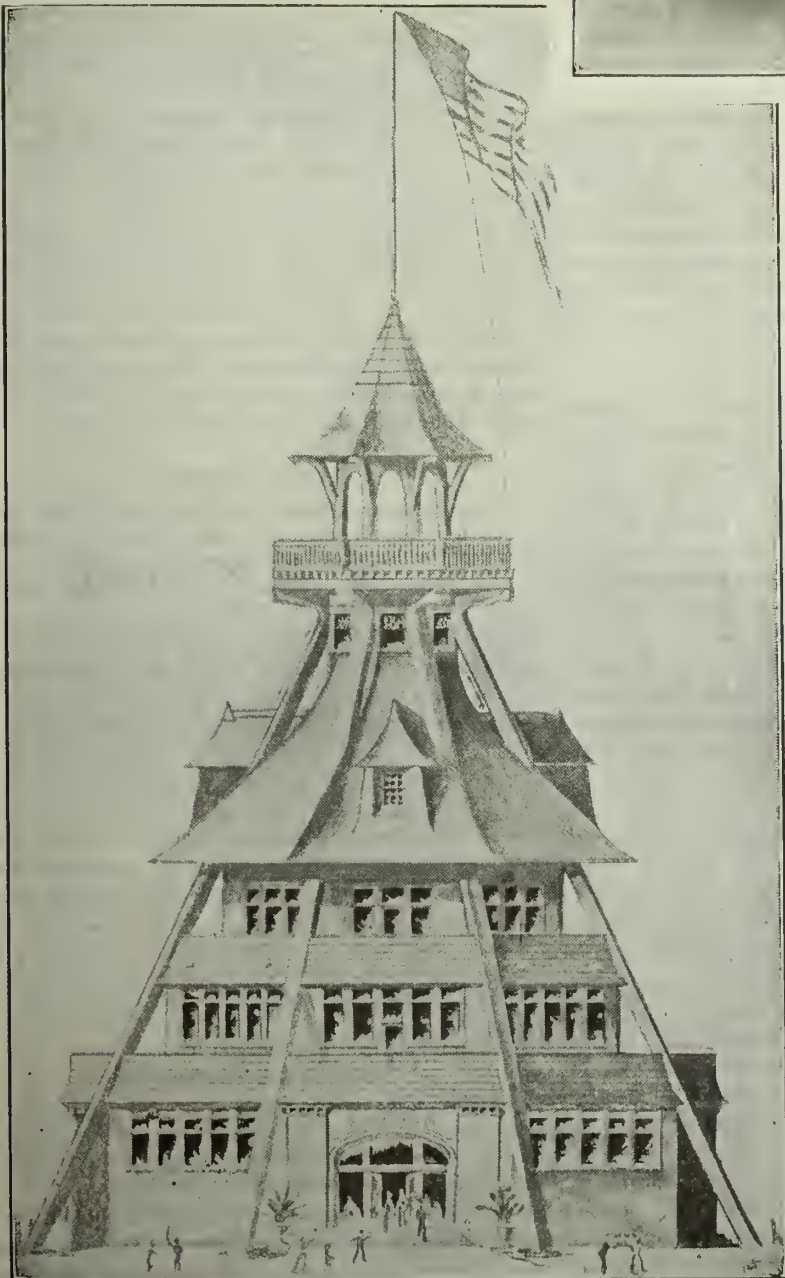
The building is to be entirely of wood, the outside of yellow pine, and the inside finished with the finer grained woods produced by the State. The building is to be five stories high, towering 114 feet to the base of the flagstaff, which will rise 50 feet higher.

The building is to be octagonal in plan, eight gigantic diagonal timbers rising from the ground and meeting in an apex at the observatory line. It will be a skeleton pyramid of eight faces. All the floors will be supported on these great diagonal timbers, which are to be shipped from Washington. Each timber is to be in one piece over 90 feet long, 24 inches wide and 28 inches thick. Each story of the building is to have but one compartment. Through the center of the building an elevator will be operated to carry visitors comfortably to the observatory.

In this way Washington has solved the problem which troubled many of the States. They all desired locations from which the main picture of the Exposition could be seen, but not one of the States received such a location. The view may, however, be obtained from the observatory of Washington's building.

## American Fruit in Saxony.

Under date of Oct. 12, 1903, United States Consul Hugo Muench of Plauen, Germany, states that the big red American apple has long been a favorite with the people even in that remote region, while the fine California dried fruit, now for sale in every grocery, is indispensable to the average household. The consul adds that the laws and regulations which tend to impede the free importation of these fruit products find little favor with the masses.



Building and Observatory to be Erected by the State of Washington.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

**TWO DOLLARS PER YEAR IN ADVANCE.**

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers

E. J. WICKSON Horticultural Editor

SAN FRANCISCO, DECEMBER 5, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—California State Building at the St. Louis World's Fair; Building and Observatory to be Erected by the State of Washington, 353.  
EDITORIAL.—The Pacific Coast at the St. Louis Fair; American Fruit in Saxony, 353. The Week, 354.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Nov. 30, 1903; Temperature and Rainfall, 355.  
QUERIES AND REPLIES.—Winter Growth of Forage and Vegetables; Grafting Preferred; Sizes of Vegetable Boxes, 354. Alfalfa—Vine Budding—Boiling Scale Wash; Sugar Prunes—Blackberry Plants; Hungarian Brome Grass; Vines and Figs Under Glass; Normans and Percherons, 355.  
AGRICULTURAL SCIENCE.—Chemistry of Soils and Crop Production, 356.  
THE FIELD.—Alfalfa and Rape in Shasta County, 356.  
THE STOCK YARD.—The White Color in Shorthorns, 357.  
THE POULTRY YARD.—Practical Poultry Points, 357.  
RANGE INTERESTS.—The Interior Situation, 357. Rangemen Hunting Feed, 358.  
AGRICULTURAL REVIEW.—359.  
THE HOME CIRCLE.—How Sweet Is the Reward; My Uncle's Test; Pigs Being Raised With Puppies; The Removal of Stains; Blueing With Indigo, 360. Simplicity in the Home; Flies That Pester; Hints to Housekeepers, 361.  
THE MARKETS.—Produce Market; Fruit Markets, 362.  
THE VETERINARIAN.—Answers to Queries—Treatment for a Dehorning Wound, 364.  
FORESTRY.—The Strength of American Timbers, 364.  
THE DAIRY.—The Riverside Holstein Herd; Alfalfa Figures in Merced County, 365.  
FRUIT MARKETING.—The French Apple Harvest, 366.  
MISCELLANEOUS.—New Patents, 366.

## The Week.

The soil in the upper half of the State is now in good working condition, and the plows and seeders are moving at top speed. It is a little late, but everything is now favorable, and a large area may be handled. In southern California the temperature has been summery, and the thousands of Eastern winter-fliers who are already reaching the south must be convinced that they are getting all that has been promised. The incoming of the winter rush of people brings some consolation to our southern friends for the dry heat which they have experienced and which has made it necessary to irrigate as freely as in midsummer. But this can not continue long, and the south may be wet through before Christmas.

Wheat is as dull as before, though there seems to be a firmer feeling in futures. There has been a charter for general merchandise at 13s 9d, with wheat for stiffening at 10s. One charter for wheat and barley and another for barley straight have been made at 11s 3d to Cork for orders. These rates are the lowest known. Common feed barley is weak—there is too much screening from export barley for feed and crushing demand. Other cereals are quiet. Large white and pink beans are firm. Limas are held firmer, but rates unchanged, and red beans are scarce. Bran and cracked corn are lower. Hay is unchanged; quiet and steady for common and firm for choice to fancy. Beef and mutton are firm, with better prospects for next week. Hogs are unchanged. Butter is weak and slow, but the price is still claimed to be 5 cents above the mark at which shipping can proceed. Cheese is slow and unchanged. Egg receipts are light and holding prices well, though said to be easier. Poultry is not so strong as last week, but is selling fairly and turkey-buying for Christmas already being done. There seems to be a good speculative demand for potatoes and prices hold up, while onions are lower. Good apples are firm, especially Spitzenbergs, which are a local favorite in San Francisco; common apples are cheap as ever. Few pears are now available, except from storage, and grapes are about gone. Oranges are abundant, including quite a lot of imported Japanese. Lemons are quiet and firm for the best. There has been a heavy shipment of small prunes, largely to Germany for distilling purposes. Some of the 2½ million pounds which went in one steamer are 2-year-old fruit. A British Columbia

steamer has taken out 120,000 pounds of dried fruit for northern trade. The dried fruit market is, on the whole, quiet, offerings being chiefly large prunes, peaches and apples. Almonds are easy, but the supply is small. Walnuts are too scarce to fill orders. Honey is quiet and unchanged, firm for fancy and easy for other grades. Hops are steady; few sales here, but business reported from Oregon and the interior. Wool is very quiet; 29,000 pounds have gone by steamer to New York.

As the Fruit Growers' Convention will assemble in Fresno next week we shall soon have another rehearsal of the wrongs of transportation and trade. Again there has been much transgression in the way of overtime by eastward fruit trains, and this has been a handicap against securing all the benefits from the better distribution which has been accomplished. The total shipments have, however, reached higher figures than ever before. This year's shipments will slightly exceed 7500 carloads, as compared with 7136 in 1902. The shipments of 1902 exceeded by several hundred carloads the shipments of any previous year. It is interesting also to note that trials at law are bringing out more definite data about the old rebate iniquity by which smart dealers have been enriched and other shippers handicapped. It is telegraphed from Chicago that an investigation before the Bankruptcy Referee has cast some light on the "secret profits" amassed by James S. Watson while president of the firm of Porter Bros. Co. Testimony given by George B. Robbins of Armour & Co. showed that more than \$700,000 had been paid to Mr. Watson in the last six years as rebates on refrigerating charges made by the Fruit Growers' Express Co. All that raked in by extortion in the ice business! The common ice man should pass over his reputation to these fruit handlers.

The county horticultural commissioners will have their usual assembly in connection with the Fruit Growers' Convention at Fresno. It is the 15th regular meeting of its kind, and the series has been of incalculable benefit to the fruit interest. Secretary H. P. Stabler of Yuba City points out, in a circular he sends us, that, as new horticultural legislation was enacted at the last session of the Legislature, it is quite important that all county horticultural commissioners should attend this meeting, in order that a full discussion of the laws may be had before the planting season begins. We trust there will be a large assembly of county horticultural commissioners, local inspectors, fruit growers, nurserymen and others interested. There is much to learn about the latest phases of the industry, and one must be up to date to proceed wisely in any fruit line.

Some figures about the brandy interest of California are safer to pore over than the brandy itself. The report of the United States Internal Revenue officers shows that California pays about \$3,000,000 to the Government in brandy taxes. During the fiscal year California produced 5,614,215 gallons of grape brandy, 68,187 gallons of peach brandy, 58,851 gallons of prune brandy, and small quantities of apple, pear, orange, apricot and cherry brandy, making a total of 5,771,400 gallons, many times more than all the rest of the country combined, the total production of the United States being 6,440,673 gallons. The total production of fermented liquors in California during the year was 967,915 barrels.

Emperor grapes from Fresno are still making high figures in the Eastern markets. Last week in Boston the highest price realized this season for California grapes was the gross return for a carload of Fresno Emperor (red) grapes, being \$2236. This matter of "red" Emperor may occasion some confusion. It simply means well-colored Emperors, selected for color and packed by themselves. White Emperor is, then, the grapes from the same vines which have not taken on color. There is also a special name given to the small, compact clusters of second-crop fruit from the same vines. Soon we shall have to explain, perhaps, how in California one can grow three different kinds of grapes from the same vine without grafting. These are merely trade names. The fruit is all from the Emperor vine. It is interesting, also,

to state that Emperor is itself a California name for an European grape brought here in early days and renamed because the proper name was lost and has not yet been recovered. There are many queer things in nomenclature, anyway.

## QUERIES AND REPLIES.

### Winter Growth of Forage and Vegetables.

TO THE EDITOR:—1. What is the best time to sow winter crops designed for forage or soiling? 2. What do you recommend for that purpose besides peas and rape? 3. When is the best time to set out blue gums 10 to 15 inches in height? 4. What vegetables and root crops can be grown in California in the winter? My place is located in the foothills, on the east side of Napa valley, elevated about 25 feet above the floor of the valley.—M. H. B., Napa.

Crops for winter feeding should usually be planted as early in the fall as the rainfall will permit, so as to get a good growth before the low temperatures of the latter part of December and January. Where the rainfall is heavy, the soil rather retentive and the temperature rather low, as in your location, December and January are often too wet and cold for much field growth. This time of sowing depends, however, not entirely upon the calendar, but upon the character of the particular season and the general characteristics of the locality. For winter feeding you can sow rye, barley or oats, burr clover, beets, vetches, etc. Blue gums should be planted after the weight of the winter is over—say, from February onward, in your district. As for vegetables in winter, it depends upon the local soil and climate. In many places in the central part of the State you can grow in winter almost everything except beans, corn, tomatoes, the squash family, including melons, cucumbers, etc., and a few other things known to be tender. These matters are all discussed in detail in our "California Vegetables" and are too large for reply in this connection.

### Sizes of Vegetable Boxes.

TO THE EDITOR:—Please give the sizes of the boxes mentioned in the market report of your paper. For instance, tomatoes "large box," "small box," "egg plant per box." How many pounds do these boxes contain?—H. Jounson, San Diego county.

It is almost impossible to answer this question accurately, because so many shapes and sizes are used during the season covering the times when each of the vegetables is new or in full supply. It may be said in general, however, that a "large box" usually means a "big box," such as is used in carrying in from the field, and holds from 50 to 60 pounds, according to the nature of contents. A "small box" agrees pretty closely with the ordinary peach box, holding from 25 to 30 pounds. Nearly all vegetables come in new in the small boxes, and later, when plenty and cheap, the larger boxes are used.

### Feeding Alfalfa.

TO THE EDITOR:—Please tell me what is the best way of feeding alfalfa hay. This is the first time I ever had that kind of hay, and cow eats very little of it. By feeding the alfalfa, how will it affect her milk?—READER, San Joaquin county.

If you begin by feeding your cow alfalfa hay in connection with other hay to which she is accustomed she will, of her own accord, acquire a taste for the alfalfa, which will probably lead her afterwards to prefer it. No animal likes to change quickly to a thing to which she is not accustomed. As for the effect upon the milk, if you begin gradually you may expect only slight changes in the flavor of the milk. There is some difference of opinion as to the desirability of the alfalfa flavor, but in the parts of the State where alfalfa is largely used, there is seldom any objection made to it. If you can conveniently give your cow access to the straw, which she may eat in connection with the alfalfa, it will tend to lessen changes in flavor.

### Grafting Preferred.

TO THE EDITOR:—I am thinking of replacing some three-year-old Sugar prunes (on peach) by French prunes. Would grafting be preferable to putting out fresh trees?—SUBSCRIBER, Healdsburg.

If the trees are sound and good we should graft them, although you can get better trees by planting anew. We would count the saving of time the ruling factor.



Alfalfa—Vine Budding—Boiling Scale Wash.

TO THE EDITOR:—There is a sidehill on our place facing north, with a creek about 18 feet below. I have tried several times to put this into alfalfa. When sown in the fall, the frost kills it before it properly comes above the ground, and for spring sown we have little or no rain after April 1st. What plants spring frosts do not kill make so stunted a growth that cottontails and squirrels have an easy task to finish them. I have heard that the experiment station tried Turkestan alfalfa. How would this suit me, and where can seed be obtained?

Has budding been tried on resistant grape stock, and with what success? That is to say, budding a shoot of Rupestris in several places in August, then cutting it off at end of year when pruning, making it into two or three suitable cuttings, planting them out either in nursery or in the vineyard direct. Do you use wax in bench grafting?

The proper lime, sulphur and salt spray is cooked, so to speak. I am told there is a method to make same cold, I believe, by using potash. Please tell me the modus operandi, and if it is equally efficient. The cooking and applying same warm is a nuisance.—READER, Napa.

Turkestan alfalfa has not yet been demonstrated to be superior to the common kind in the matter of resisting drouth. Some think they see a little difference in it; others say it is practically the same. The matter has not yet been fully demonstrated, nor is there any seed available at the present time. It seems to us that you might sow alfalfa earlier than April with better chances of success. There are some times in February when the ground gets warm and dry enough for sowing, and spring frosts are usually lighter than the frosts of early winter. The alfalfa plant will stand a certain amount of frost without injury, although, of course, it will not stand hard freezing. We would try early sowing—as early as the ground conditions will permit after the heavy rains and frosts of January and February are passed. It is quite a question, however, whether the soil and situation which you describe are likely to give you much satisfaction with alfalfa, even if you get a stand. It is seldom of any account on coast uplands without irrigation.

The method of putting several buds into the grape cane and then making the cane into several cuttings has been described and is possible with proper treatment. Prof. Twilight gives a detailed description in the University of California Bulletin on vine budding, of which we gave a full account in our issues of March 14 and 21, 1903.

It is true that the lime, salt and sulphur mixture is made without boiling, as you say; but our experience is that it is not nearly so efficient, the value of the wash really consisting in the compound produced by sufficiently long boiling.

Sugar Prunes---Blackberry Plants.

TO THE EDITOR:—Has there been enough of Sugar prunes put on the market yet to fully demonstrate their selling quality? If so, would it be advisable in setting out a few acres of prunes to put half Sugar prunes? What is the length of time required for "rooted tips" of the blackberry and loganberry to come into bearing if planted out this spring?—C. B. HAMILL, Sonoma county.

So far as we now know the market standing of the Sugar prune has not yet been fully made out. Although there has been large planting and grafting in during the last two years, it is a little too soon to have a product of much volume. We shall be glad to have our readers' experience with this variety. Our present knowledge of its growth and bearing indicates that it is a good variety to plant. As soon as you get a good growth of cane from your tip plant you can expect fruit the following year on such a cane.

Hungarian Brome Grass.

TO THE EDITOR:—Please give me some information in regard to Bromus inermis; its requirement regarding moisture, and its height of growth. Does it make good feed for stock or poultry, and if you get it started on a piece of ground can you kill it out?—ENQUIRER, Windsor.

Hungarian brome grass (Bromus inermis) is a good grass in situations where moisture enough remains in the soil to keep it alive during the summer time. It will die out on uplands, or on light soils anywhere where there is considerable distance to water during the dry season. It has been unfavorably reported from Cloverdale and other places in this part of the State. It makes a good growth during the wet season, growing to a height of two or three feet and furnishes a great deal of winter pasturage for stock or

poultry, but its failure during the summer renders it of doubtful value, except in specially suited situations. Australian rye grass seems to live in places where the Brome grass dies out. Neither of these plants are dangerous. They do not have running roots and can be plowed out without difficulty.

Vines and Figs Under Glass.

TO THE EDITOR:—I wish to grow under glass late varieties of grapes and figs, our San Mateo county climate being unfavorable for ripening very late fruits in the open air. Several doubts arise in connection with planting and cultivation concerning which I should like to obtain your valuable advice. It is generally conceded by experts that grafting Vinifera varieties on resistant vines increases the yield, but the quality is not quite equal to that produced by the same varieties when grown on their own roots. As the vines under glass may have the advantage of any character of soil most suitable, with high culture and ample moisture would it not be well to take chances of phylloxera and plant such varieties as are desired on their own roots, thereby saving much time and perhaps gaining something in quality? All works that I have read on the cultivation of fruits under glass written for the climate of the British Isles and the Eastern States, recommend a prepared border of about 10 feet in width and 2 feet in depth, with ample drainage beneath, say of 8 inches of gravel or brickbats. Would it be wise to follow this custom in our climate where the tendency of all plants is to deep rooting? Would the depth of 2 feet for the roots of both vines and figs not be too shallow under our hot California sun?

Again, the usual distance from the glass for training both vines and figs is 15 to 18 inches. Will that be sufficient distance to prevent burning of the foliage? In England it is always considered necessary to limit the root space for fig trees under glass to a few square feet to induce the trees to bear fruit. As there is no difficulty in getting the fig to bear in California, would you advise limiting the root space to prevent too much luxuriance of growth, as the space is necessarily limited under glass? Or would the summer pinching of the shoots, which is necessary in training the shoots on a trellis, not be sufficient to restrict the root growth? If you advise that the root growth be restricted, how much space would you suggest for the roots for each tree which will have a limit on the trellis for the training of the branches, of 12 feet in height of glass space, and 10 feet in width?—SUBURBAN, San Mateo.

As work under glass is a little beyond our experience, we submitted the foregoing to Mr. John McTear of Santa Barbara, whose excellent results in growing fruits under glass on the fine estate of Mr. Gould at Montecito we have had the opportunity for admiring. Mr. McTear regrets his inability to speak as definitely as he would like for lack of accurate knowledge of the local climatic features, such as occurrence of fogs, night temperatures, etc., and he is also at a loss because our correspondent does not say whether he intends to use artificial heat or not, nor the style of the house he has. All these things are naturally involved in a clear understanding of the situation. With reference to the specific questions Mr. McTear sends us the following comments:

As regards grafting on own root vines, I would plant on their own roots, for in an experience of over twenty-five years of grape culture under glass (fifteen years in the British Isles and the Eastern States and over ten years in California) I have had no trouble with phylloxera.

The depth of the border should be about 3 feet, with from 3 to 10 inches of drainage (broken rock, etc.) beneath. It is not advisable to let the roots of vines grown under glass go down into the subsoil—at least such is the experience of the most successful grape growers.

Fifteen to eighteen inches will be sufficient distance from the glass for training both vines and figs. The trellis in my vinery is only 12 inches, and I have no trouble with sun burning of the foliage. As regards fig culture under glass, I have had no experience in California, but would, if planting, prepare a border much the same as I would for vines, both as to compost and root space.

If, as I judge from your correspondent's letter, the house is 10 feet wide, I would give them the entire width.

I hope these few brief remarks may be of use to you, and if a fuller treatise on the culture of grapes under glass would be appreciated by the readers of your paper I will be glad to furnish one at any time.

We are sure that our suburban readers will be glad to have Mr. McTear's fuller discussion of grape growing under glass. The time is, perhaps, near at hand when we shall begin to have more of high class professional and amateur horticulture as a supplement to our eminent commercial interests in fruit jines. If Mr. McTear will open the discussion he proposes, perhaps others will follow.

Normans and Percherons.

TO THE EDITOR:—Kindly inform me through your most valuable paper the difference in the Norman horses and the Percheron horses. I noticed they were classed together at our late State Fair.—HORSEMAN, Auburn.

The horses known by these names came from La Perche in Northern France and from adjacent parts of Normandy. The two names were used for essentially the same breed of horses, and occasioned much confusion in this country until the French organized a Percheron Association and published a stud book in 1883. In November of the same year the American society followed suit and decided to adopt and adhere to the only name by which the breed is said to be recognized in its native country, viz., the Percheron.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending November 30, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

The weather during the past week has been generally cloudy and foggy at night and in the morning, and clear during the middle of the day. Light showers occurred on the 23d. The ground is in excellent condition for all farm work and plowing and seeding are progressing rapidly. Early sown grain is making fine growth. Grass has grown rapidly and green feed is becoming plentiful. Stock are improving. Pruning orchards and vines is progressing rapidly. Orchards are being plowed in many sections. Oranges are ripening rapidly and large shipments are being made from some sections. There is plenty of water in the streams.

Coast and Bay Sections.

The weather during the past week has been warm and cloudy, with a few light showers in the northern section. Dense fogs have prevailed during the nights and early mornings in the bay and southern coast sections. Except in the extreme north, where it is most too wet, the ground is in excellent condition for farm work. Plowing and seeding are progressing rapidly, especially in the bay counties. Early sown grain is making fine growth. Grass has made very fine growth and green feed is getting plentiful in all sections. Stock are improving rapidly. Good progress is being made in plowing and pruning orchards. Large shipments of celery continue. Cloverdale oranges are making satisfactory progress and are in good condition.

San Joaquin Valley.

Generally cloudy and foggy weather, with heavy dews, prevailed during the past week. In the northern portion of the valley the ground is in excellent condition for cultivation, and plowing and seeding are progressing; in the southern portion, where the recent rain was very light, but little plowing has been done. The last of the grape crop has been shipped to the wineries. Feed is getting scarce in the southern portion and stock are reported thin; in the northern section green feed is making rapid growth. The streams are getting very low. A few light frosts are reported, but caused no damage. Orange picking and shipping continue, and the fruit is reported of excellent quality. Olives are making good progress.

Southern California.

The weather the past week was clear and pleasant during the first portion, and very warm the last few days. Rain is badly needed to soften the ground so that plowing can commence. Oranges are making fine progress and have colored rapidly in the last few days. In some sections they are early ready for shipment. Guavas are in their prime and the yield is above that of last year at this time. Other citrus fruits are making good growth. Large quantities of dried fruit are being shipped. Celery is being shipped in large quantities.

LOS ANGELES SUMMARY.—Abnormally hot at close of the week, with drying winds. There is as great demand for irrigating water as at any time during the season. Rain is badly needed for farm work, and to stop irrigating. Oranges are not coloring as fast as was expected.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 2, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka.....	.45	14.34	13.96	10.40	62	46
Red Bluff.....	.71	8.73	10.09	5.37	72	40
Sacramento.....	.00	2.52	3.71	5.80	64	42
San Francisco.....	.00	4.43	3.69	5.50	64	48
Fresno.....	.00	.61	2.67	1.79	64	38
Independence.....	.00	.43	.79	1.14	68	38
San Luis Obispo.....	.00	.44	.52	4.35	85	33
San Diego.....	.00	.43	2.47	2.36	90	46
Yuma.....	.00	.07	2.50	1.13	81	48
	.00	.66	.71	1.22	84	44



## AGRICULTURAL SCIENCE.

### Chemistry of Soils and Crop Production.

By PROF. E. W. HILGARD, Director of the University California Experiment Station, at the meeting of the Association of American Agricultural Colleges and Experiment Stations held last week at Washington, D. C.

Bulletin No. 22 of the Bureau of Soils of the U. S. Department of Agriculture has for its subject: "The Chemistry of Soils as Related to Crop Production." The following quotations will best define the scope of this bulletin of 71 pages, by Milton Whitney, Chief of the Bureau of Soils, and the theses which it is intended to establish and maintain:

Page 7. "The investigations made by the Bureau of Soils during the last ten years have shown that the economic distribution of crops is dependent mainly upon the physical characters of soils, and upon climate."

Page 13. "Briefly stated, the results given in the following pages appear to show, contrary to opinions which have long been held, that there is no obvious relation between the chemical composition of a soil as determined by the methods of analysis used and the yield of crops; but that the chief factor determining the yield is the physical condition of the soil under suitable climatic conditions."

Page 63. "The exhaustive investigation of many types of soil by very accurate methods of analysis under many conditions of cultivation and cropping, in areas yielding large crops and in adjoining areas yielding small crops, has shown that there is no obvious relation between the amount of the several nutritive ingredients in the soil and in the yield of crops."

Page 64. "It appears further that practically all soils contain sufficient plant food for good crop yield; that this supply will be indefinitely maintained, and that the actual yield of plants adapted to the soils depends mainly, under favorable climatic conditions, upon the cultural methods; a conclusion strictly in accord with the experience of good farm practice in all countries."

The bulletin contains extended tables showing the results of the analytical work, and at the end a full description of the methods employed therein.

**STARTLING CONCLUSIONS.**—The above four paragraphs, taken respectively from the beginning and the latter part of the bulletin, summarize the conclusions to which, as it states, "the Bureau of Soils has been forced."

These conclusions are certainly startling, to say the least; and perhaps not the least remarkable is the concluding one, which hardly agrees with the impressions left upon the mind of most of those who have made themselves acquainted with the history of agriculture and its past and present practice in the most advanced civilizations.

Were such statements to emanate from a private laboratory, on a mere personal responsibility, it would be likely to be passed over and allowed to run its course. But when it emanates from the head of the Bureau of Soils in the United States Department of Agriculture, and is expressly and persistently given as the opinion of that bureau, it can not be thus passed over unchallenged.

The above quotation from page 7 of the bulletin practically prejudices, or begs, the main question at issue. To any one outside of the bureau the cogency of this statement is far from apparent, except in so far as it may mean what has long been known and recognized, and need not, therefore, have been shown anew by the bureau.

**THE BASIS OF THE CONCLUSIONS.**—If we examine the experimental basis upon which all these assertions are made, we find it to be the assumption that the aqueous soil solution is the exclusive source through which plants derive their food; and the fact, assumed to be demonstrated by a newly devised method of analysis, that the solution is practically of the same composition in all soils, so far as the mainly important plant food ingredients are concerned. Throughout the bulletin the determinations thus made are considered and mentioned as constituting an "exhaustive investigation of many types of soil, by very accurate methods of analysis."

It is not the intention of the present writer to question the accuracy of the analyses, such as they are. But it is notorious that there are a great many methods that may and have been used for the chemical analysis of soils, each susceptible of great analytical accuracy, but in many, if not in most cases, having no practical bearing upon the agricultural value of the soils analyzed. The method of ultimate silicate analysis is one; and it is generally conceded that the results so obtained have but a very remote bearing upon the practical value of a soil. The method of extraction with distilled water, as used by the bureau, is another; it is the opposite extreme, and, unlike the silicate analysis, can certainly not be considered "exhaustive."

**THE TEST OF PRACTICE.**—Now the criterion usually applied to the relevancy of soil analyses is whether they will stand the test of agricultural practice. Judged by this test, both the ultimate analysis and that by distilled water are, equally, failures, according to Whitney's own testimony. But his conclusion is that, since his method fails as a criterion of rich and poor soils, therefore the chemical composition of soils has no bearing upon crop production, and that,

therefore, "the chief factor determining the yield is the physical condition of the soil under suitable conditions."

To this assertion "non sequitur!" is the obvious first answer. But, before discussing it, it seems proper to recall, as regards the personal standpoint of the present writer, that he was the first one to undertake systematic physical soil work in the United States, in the early '60s, and has steadily pursued it ever since, as his publications\* show. He has always held, taught and written that the physical soil conditions are the first thing needful to be considered in the estimate of a soil's practical value, the chemical composition second, since faults in the latter can in most cases be much more readily remedied than faulty physical conditions. But that chemical composition is the chief determining factor of phytogeography in the humid region, and, inferentially, of crop production within the same, became his conviction in the prosecution of the agricultural survey of Mississippi; and hence he made it prominent in his work in that State. In the arid region, where moisture is the dominant factor, and soil composition much less varied, soil physics has received his chief attention. It can not, therefore, be truthfully said that the writer has not fully recognized the enormous importance of physical soil conditions, both in his teachings and his publications.

**THE OFFICE OF FERTILIZERS.**—Eleven years ago it fell to his lot to controvert the hypothesis then put forth by Whitney, to the effect that fertilizers act, not by conveying nourishment to plants, but by modifying the physical texture of the soil.† The recent enunciation of the chief of the Bureau of Soils, while still maintaining the preferential claim for the physical properties of the soil, at least admits the importance of the functions of plant food; but claims that fertilization is unnecessary because the supply will be "indefinitely maintained." He, in fact, takes us back to the times of Jethro Tull and the Louis Weedon system of culture, which also presupposed the indefinite duration of productiveness, but signally failed to realize it when the test of even as much as twelve years came to be applied. How can Whitney reconcile this predicted indefinite productiveness with the actual facts well known to every farmer, good and bad, who has ever taken fresh land into cultivation, and when pricing it is perfectly aware that after a period ranging from three years, e. g., on the long-leaf pine lands of Mississippi to thirty or more years in the black prairies, he must needs resort to fertilization if he wants a paying crop; while in the Yazoo clay lands and the alluvial soil of the Houma country, hardly a diminution of production has occurred even yet? If, indeed, the soil solution is of the same composition in all these lands, then the common-sense conclusion is, obviously, that if the soil solution is the sole vehicle of plant nourishment, it must be supplied more quickly and continuously in the "rich" than in the "poor" soils. Certainly, considering that both rich and poor soils are represented in the entire gamut of physical texture, it is impossible to conceive that such changes in texture as would be brought about by poor cultivation should not occur in both. Yet the rich soils—those shown by the despised chemical analysis with strong acids to contain abundance of plant food, continue to produce abundantly, while the poor lands "give out." Hence, admitting for argument's sake that the soil solutions are really of the same chemical composition, it is clearly not the physical texture alone, or chiefly, that can account for these differences.

Whitney states in this connection (p. 51 of the Bulletin) that I have "called attention to an apparent exception to this rule (that production is sensibly proportionate to the water supply) in heavy adobe (heavy clay) and sandy lands in California, which bear equally good crops of wheat." It happens that this "exception" holds good throughout the somewhat extensive arid region of the United States; and my explanation is not only, or mainly, that the roots go deeper, but that in the arid region sandy soils are as a rule quite as rich in plant food (again by chemical analysis of the rejected sort) as the clay soils. Hence the abundant and lasting production of the arid sandy lands (even drifting sands) when irrigated.

Whitney's argument that even the rich arid soils cannot yield more than the maximum crops of the humid region can hardly be taken seriously.

**THE QUESTION OF AVAILABILITY.**—It is a striking fact that in the entire Bulletin only a single full soil analysis (i. e., one made with strong acids) is quoted. There is a table giving the results of determinations of available plant food, determined by the official method, alongside of the distilled water extract; and it is apparent that the two differ widely. But there is no definite agreement among soil chemists as to the "available" determinations, whether as to value or method; the matter is still in the tentative stage, and I wholly dissent from the "official prescription." The table in question proves nothing. But it would have been instructive, so long as Whitney wishes to disprove the value of soil analysis as usually made, to

\*Proc. A. A. S., 1872, 1873; Amer. Jour. Sci., 1872, 1873, 1879; Proc. Soc. Prom. Agr. Sci., 1882-1898; "Wollny's Forsch." 1879-1896; Centralblatt für Agriculturchemie, 1896; Agr. Sci., 1892; Jour. Am. Chem. Soc., 1891; U. S. Weather Bureau Bull. No. 3, 1892; Ann. de la Sci. Agron., 1892; Cal. Agr. Expt. Sta. Reports and Bulletins, 1877-1903.

†Agr. Sci., 1892, pp. 321, 566.

have at least some of the soil classes he adduces as proofs analyzed by the usual methods, if only in order to show that these soil types—the Cecil clay, the Sassafras loam, Norfolk sand, etc., are really, as alleged by him, the same soils over the area assigned to them. How have these soils been identified in the mapping? We are informed (p. 8 of the Bulletin) that "the classification of soils in the surveys made by this bureau is based mainly on physical differences, apparent to a trained observer." It is apparent from the annual reports that the mineralogical and geological data which are elsewhere considered as essential to a definite characterization of a soil, and which certainly are to be counted among the physical characteristics, are in most cases wholly ignored. Instead, we have local names by the thousand, conveying no meaning whatever to those not acquainted with the localities; since nothing but a scantily interpreted physical analysis is ordinarily given. Even when the mineral composition of the soil is obvious, these meaningless local names are retained as against pre-existing local or descriptive designations. Thus we have, e. g., a "Fresno sand" appearing also in the report on Orange and Monterey counties, California—localities hundreds of miles apart. To the uninitiated only the physical analysis is offered as a mark of their identity by the trained observer. It seems a pity that that training should not have extended to calling that material a granitic sand, which would have rendered the designation intelligible all over the world, at the same time conveying important practical information in view of the well-known cultural characteristics and value of granitic soils. It is given out that these studies will be made later in the laboratory. But it may be seriously questioned whether it would not be better to cover less ground more thoroughly, and be content with less extended and hasty mapping. This superficial method of work naturally excites criticism, not only at home, but also abroad.\*

Until some better proof of identity is shown we cannot accept Whitney's conclusions based on the similarity of the soil solution with widely varying production on "the same soil"; and his entire argument suffers seriously from the absence of any convincing proof that "rich" soils do not supply plant food, even in aqueous solution, more rapidly than does "poor" land.

But is the aqueous solution the only source of supply? Whitney rejects in toto the idea that anything but the carbonic acid secreted by the roots aids the solution of plant food; but his method of analysis practically ignores even this solvent, the use of which was suggested, and actually carried out by David Dale Owen, and tried by myself in the early fifties. I found it unsatisfactory and abandoned it; but it would seem to have been incumbent upon Whitney and his co-workers to introduce this inevitable agency into their soil extractions if it was intended to represent natural conditions. This is a fundamental, not to say fatal, defect.

**THE ACTION OF ROOTS.**—But there is still a wide difference of opinion in this matter of the acid root secretions, and the investigators quoted by Whitney have by no means settled the matter. Among others, Kossowitch,† when observing the fact that calcic bicarbonate leached from his vegetation pots, failed to establish the absence of other organic acids from the solution. The old etching experiments have not, to my mind, lost their force; and in my experience I find it difficult to overcome the evidence of litmus paper reproducing in the soil a faithful image of citrus roots filled with a .83% solution of citric acid.‡ If the paper can take up the acid from the root surface, surely the much stronger capillary action of the soil can do so, according to Cameron's experiment, quoted on page 54.‡ But if so, Whitney's entire argument based on watery soil solutions falls to the ground.

\*Biedermann's Centralblatt, February, 1903, p. 143.

†Ann. de la Sc. Agron., 2, ser. 1, 23, 1903.

‡Report Calif. Ex. Sta. for 1895-6 and 1896-7, p. 181.

§When a porous cell having deposited in it a semi-permeable membrane through which water can pass freely, but through which salts and certain organic substances like sugar can not pass readily, is hurled in a soil short of saturation, but yet in fair condition for plant growth, the soil will draw water from the cell against a calculated osmotic pressure in the cell of 36 atmospheres, or about 500 pounds per square inch."

(TO BE CONTINUED.)

## THE FIELD.

### Alfalfa and Rape in Shasta County.

TO THE EDITOR:—In your paper of November 21st Mr. Skarstedt asks about sowing alfalfa. I set two acres on or about November 2d and it sprouted very well, and we had two or three frosts, which have done it no harm whatsoever, and now it's just as good as could be.

There is a great deal of romance about this alfalfa seed. Some say one thing, some another. Some of them never set it, but knew some one who knew some one who did.

My experience is all for autumn sowing in this country. I have seen young alfalfa cut to the roots in April up here, but it did no injury to the crown. That was the 11th of April, about four years ago. I think that if you have heavy clayey ground and it



freezes a couple of inches deep and lifts and breaks the tap roots it gets dried out in summer, and that's all about it. I also think it's much too good and valuable a crop to sow with anything else, besides if anything happens to it you lose a year. It is a crop which requires all care and it's well worth it. I took eighteen loads of dried hay from two acres without water this year.

This year I sowed sixteen pounds of rape and it takes some wetting to start it, as it is only now coming up. But it looks well, and my experience of the old country tells me it will stand the frosts here without a curl.

W. J. B. MARTIN.

## THE STOCK YARD.

### The White Color in Shorthorns.

TO THE EDITOR:—There appeared in a recent number of the Breeders' Gazette a very intelligent and interesting account of the live stock show at the Oregon State Fair, where the show of cattle, sheep and hogs must have been much better than at the late California State Fair.

THE ENTRIES.—I do not know the exact number of cattle on exhibition at the latter; but of cattle there were probably not to exceed 100 head of Shorthorns, 25 Herefords and 50 head of Holsteins and Jerseys—a total of about 175 head, which does not compare at all favorably with the Oregon exhibit of 367 head of cattle, 300 head of sheep and 250 hogs.

Although there were nine different breeds of cattle on the grounds, the greater part consisted of Shorthorns, Herefords and Jerseys, and, if I may judge by the long prices paid for Shorthorns by some of the exhibitors within the last few years, there were some very good show animals among them. In fact, the Gazette says:

"The live stock department was a striking feature. In fact, such a vein of individual excellence ran through all of the divisions that the exhibit of live stock as a whole would be no discredit to the 'Royal of America' at Springfield. \* \* \* The breeders in this State have high ideals, and are thus erecting an imperishable monument of fame for our commonwealth."

THE COLOR QUESTION.—If their ideals are high, it must be in regard to the breeding and quality of their animals—not, like our California breeders, putting color first; for in the description of the prize winners the correspondent of the Gazette gives the colors of twenty-six of the prize-winning Shorthorns to be as follows: Twelve red ones, twenty-one roan, three of them being described as light roans, two red-and-white and three white ones among the premium animals, which, I may safely say, is more white Shorthorns than have been exhibited at the California State Fair during the last fifteen years or more. I do not remember seeing a white Shorthorn at our State fairs since the time the late Col. Younger showed his Nevada Belle 8th, that was calved in 1886, and I have no hesitation in saying that she was a better animal than nine-tenths of the red cows or heifers that have been exhibited at our State fair since that time. I do not remember seeing any other white cow or heifer exhibited until 1902, when a white three-year-old heifer was taken into the ring; but as she had not then produced a calf she was ruled out, otherwise Prof. Carlyle said that she would have stood at the top in the class.

WHY THE RED?—Now, why this prejudice against the color of white in Shorthorns? It is one of the original colors of the breed and was quite prevalent in early and middle Shorthorn history among the imported cattle. Cattle of that color are the equal of those of any other color in every respect, so far as I know by my own experience, and many of my best cattle are descended from a white cow that I bought in 1871, a few of whose descendants are at this time white ones, which are quite as good and useful cows as the darker colored ones of the same family. White cows bred to red bulls will invariably bring roan calves, and vice versa, so that we can, by crossing white upon red, or red upon white, like some of the English breeders do, and, for that purpose, improve upon the color of red.

Certainly one of the finest cows I ever saw brought to California was a white one, brought here in 1861 by the late J. D. Patterson. She came from the herd of Col. Townley, which was at that time one of the finest show herds in England. Mr. W. S. Marr, one of the most successful breeders on this continent now living, said on his visit to America—I think, about two years ago—that, without hesitation, he pronounced a pure white bull to be the best young bull that he saw in America. Also, W. H. Harris, who at one time bred some of the best Shorthorns in America, said in the Breeders' Gazette that the best and most perfect-shaped bull he ever saw was a white one when in England. So you see, Mr. Editor, that I "speak with authority" and some experience with regard to and in favor of the color white in Shorthorns, pure or mixed.

ROBERT ASHBURNER.

Lakeville, Sonoma county.

## THE POULTRY YARD.

### Practical Poultry Points.

TO THE EDITOR:—Success in poultry raising depends upon the capability of the manager. Here, as elsewhere, there is no such word as luck. Many a person has engaged in the business and prospered. Scores have made the effort and ignominiously failed. Victory comes to the person who is willing to work hard for the prize; who is blessed with a liberal amount of common sense, and who is not easily cast down when difficulties arise, as arise they will, but not always to the diligent comes the coveted reward. There must be a combination of desirable qualities in the makeup of the poultryman if success is to crown his efforts.

CONTRASTED CASES.—The writer is acquainted with two persons, who, within a few years, turned their attention to poultry raising on lands separated from each other not over a mile. Neither of these gentlemen knew ought of the business they were about to engage in of a practical nature. What knowledge they gained was from experimenting, by reading and by obtaining the advice of persons who had been in the business for some considerable time.

The first man was diligent, enthusiastic, determined to succeed, but, withal, somewhat visionary. At the expiration of four or five years several thousand dollars had been expended, and the gentleman gave up his poultry business in disgust.

The other gentleman, formerly a city business man, took hold of poultry raising after looking well over the ground. He invested quite a sum of money, met with some reverses, but, sanguine of success, pushed ahead. Two or three years' experience has enabled him to establish a profitable poultry plant, his success in making his hens lay very large amounts of eggs being the envy of many old-timers.

Undoubtedly this history is repeated in every locality in our land. There is money and health and satisfaction in the occupation for any one, man or woman, who has or will develop the necessary qualities of head and heart and muscle.

THE SEASON.—The early rains have arrived. It is well to look carefully after the comfort of the flock, day and night, during the stormy weather. In some yards all the fowls are not yet through molting, and the half-clad members of the poultry family need warm housing and nourishing food. A little extra care during the inclement weather will be surely attended with profit. Slight colds are liable to develop, sometimes very suddenly. At the first appearance of any trouble take immediate steps to bring about a cure. A stitch in time often saves ninety-nine in the poultry yard.

HEAD TROUBLES.—A few months ago a valuable eighteen-months-old hen was found breathing loud enough to be distinctly heard several rods distant. This asthmatic condition came on suddenly and rapidly developed. A few drops of camphorated oil, injected in the nostrils and the throat, and two or three doses of one-grain quinine pills, with warm quarters furnished, brought Mistress Biddie around all right in one day's time.

Swelled head will often make its appearance in an unaccountable way during the fall and winter months. In its early stages this trouble may be quite easily cured. If neglected too long before a cure is undertaken, or if inadequate remedies are used, the bird may lose one eye or both. When first this trouble appears it may be easily cured by using a solution of peroxide of hydrogen, or a solution of boracic acid, former being preferable. Use one part of the peroxide to two parts water. Submerge the head of the afflicted fowl in this solution for a few seconds twice a day, or apply the liquid to the head and eyes of the fowl with a feather. But if the head is greatly swollen and the fowl is quite sick, there is little use in trying to effect a cure.

THE CHOLERA.—In the vicinity of Petaluma, this fall, cholera has decimated numerous flocks to an alarming extent. Happily, experienced experts from the University of California, after studying the disease on the premises where it prevailed, were enabled to check it in great measure. This is but one instance where the University professors have rendered incalculable benefit to the poultry men of this State. It is well for all concerned that a poultry experiment station is to be established, fully equipped for the investigation of the diseases of fowls, where poultry lore, desirable for all interested parties, may be gathered and freely decimated among our poultry raisers. This is a long step in the right direction. It will greatly help the development of an industry which, we are assured, will in coming years attain to very large proportions.

FEEDING FOWLS.—After the long road from the time of hatching the chick to the day we look upon the well developed pullet has been traveled, all poultrymen are anxious to so feed their fowls that any given ration they can make use of will result in the production of the greatest number of eggs at the least expense. There are ways and ways of feeding laying hens. If one is perfectly satisfied at all times that he has adopted the very best method, let him,

by all means, continue in that direction. But there come times when we surmise that the method we are using is not as profitable as it should be. By study, by observation, by consulting those who have attained success, we may reach the desired end. One often gains much useful knowledge by experimenting.

A very successful flockmaster, whose hens lay wonderfully well all through the season, uses a considerable amount of fresh meat daily in the mash he gives his fowls. The mash is composed of alfalfa, bran, middlings and fresh meat ground fine, and green cut bone. Moreover, he keeps this before his hens from early dawn to late in the day, renewing the supply each morning. In addition to this ration, at night-fall a small amount of wheat is given.

We may account ourselves fortunate in having the privilege of writing experts at the University of California at Berkeley for information along this line. Given the articles of food one can readily obtain for his poultry, a formula for a balanced ration can at any time be had for the asking. Every poultry man, every general farmer, in fact, any one who has the care of any kind of stock—animals or poultry—should have Bulletin No. 132, issued by the University of our State. This bulletin contains much useful information which any one may obtain, free of cost.

LONGEVITY OF HENS.—Asking a successful poultry man a few days ago how long he found it profitable to keep hens, he replied that a pen of three-year-old fowls he owned had laid during this season as well as his yearlings. Not a few ask this same question. Where one has a large flock, and raises numerous chickens each year, one has to work off the older hens at the age of two years, at least. But to fully develop a fine layer takes time and money, and one does not always find it desirable to dispose of his hens when comparatively young.

A writer in the Mirror and Farmer has this to say regarding this feature of the business: "The tried hen is one that is sure to give good results again. A pullet is a mystery until she begins to lay. As but few pullets are laying now they are unknown quantities that are to be solved. It is not the most beautiful and the largest pullets that always prove the most profitable, and no one can begin to form an estimate of the value of a pullet as a future layer. Until she has proved her worth there is no reason to discard a valuable hen to make room for the pullet. Age is not always objectionable. Many hens have done good service, even at the age of seven years. Always reduce the flock to the minimum number, as it will not be long before the increase will begin again. When culling out, aim to get rid of that which, in all probability, will give the least profit in the future, as well as in the present."

A. WARREN ROBINSON,

Napa, Cal., Nov. 20.

## RANGE INTERESTS.

### The Interior Situation.

California is closely interested in the range situation, both on buying and selling sides. We recently gave the views of Mr. de Ricqlès, as prepared for the Breeders' Gazette. We now find in the same journal some comments by Mr. Barnes of New Mexico, to the effect that Mr. de Ricqlès was, perhaps, a little too conservative. Mr. Barnes holds that it is an acknowledged fact that for three years we have all been on the down grade until to-day we think the bottom is about reached, or hope so at any rate. There are several causes that, in my opinion, will operate to raise the price of cattle within a year and these are seldom mentioned in articles on the future of the business. There are no figures available to back me up, says Mr. Barnes, but taking our own Territory—New Mexico—for example, it has in round numbers 1,000,000 cattle, from yearlings up. I am satisfied, from close personal observation and knowledge, that our losses over the entire Territory last winter and spring were fully 10% of the total holdings. This, I believe, is a safe and very conservative estimate, for I know many well-posted cowmen here who claim it is closer to 15%. However, 10% would be over 100,000 head for New Mexico alone. Now take Texas, with between 7,000,000 and 10,000,000 cattle, they had about the same loss we did, and you can see how fast it will run into the millions, as the losses were general all over the West. So I think 1,500,000 for last winter's losses is more than conservative.

The heavy killing of cows and heifers by the packers and butchers is another cause. I have no reports to refer to to substantiate my figures, but I think any close observer of the business done at the great cattle-killing centers has realized that they have killed fully twice as much she-stock during the last two years as ever before in the history of the business. When you kill the old cows you curtail production. Ergo, no calves.

SMALL INCREASE.—The remarkably small crop all over the West this year is another cause. Personally I am satisfied that our calf crop in New Mexico this year will not average 30%, and many cow men put it at 25%. That means in New Mexico alone a



shortage of something like 150,000 calves. Our calf crop last year was a good one and estimated at from 250,000 to 300,000 head. Taking it at the lower figure we are short fully 150,000. Colorado is even worse off than we are, for I have had reports from many cow men that their average will not run much above 15%. The Panhandle is as badly off, and, in fact, there is not a good calf crop anywhere this year. Take this shortage of calves into consideration, then the winter losses last year and the killing of cows and heifers by the packers and butchers, back it up by the agreed fact that our export trade is good, that the California trade has begun to draw its supplies from as far east as Colorado, thus showing a big shortage there (which we all know exists), that beef was never being eaten in such quantities as now, and finally that Russia and Japan are liable almost any day to get into a scrap and their armies and navies will eat every last one of those old canner cows and a whole lot more besides, and it seems to me as if a man is safe in predicting a good strong rise in cattle values during the next year or two.

**NO HARD TIMES.**—As to the hard times cry, I can look back over twenty-five years of range cattle work and see where every period of business depression—like, for instance, 1893 and 1894—found Western cattle bringing good, fair prices. I can offer no

reason for this, but it is true—in so far as range cattle go, at any rate. But another thing—we are not going to have any hard times. A condition of prosperity like that we have had during these past few years does not fade away in a day or a month. Business is good, crops are almost at the normal figure, and the only sore place we have is in Wall street, and those fellows, from recent developments, seem to be engaged mainly in skinning each other.

#### Rangemen Hunting Feed.

A dispatch from Gridley to the Sacramento Bee says that cattlemen and others are getting anxious at the growing scarcity of feed. An effort made today by a party who has recently brought down 400 head of cattle from Oregon to find pasture for the animals resulted in the discovery that there is no feed to be had on the Feather river ranches from Oroville to Marysville, where there is generally plenty of pasture to accommodate all comers. The well-known firm of Reyman & Evans, who operate the Ord ranch, near Gridley, have been unusually fortunate as well as forehanded, in securing all the available pasture on the east side of Feather river for a distance of several miles. They have a large number of cattle on the Butte creek pastures on land

that is generally too wet by this time of year to run on. However, this fall has been unusually dry, and the feed on this partially overflowed land has held on longer than ordinary, and the firm is that much to the good. This firm is suffering no inconvenience, having plenty of feed. It is the outside parties who are bringing in cattle from the distant ranges who are made to suffer.

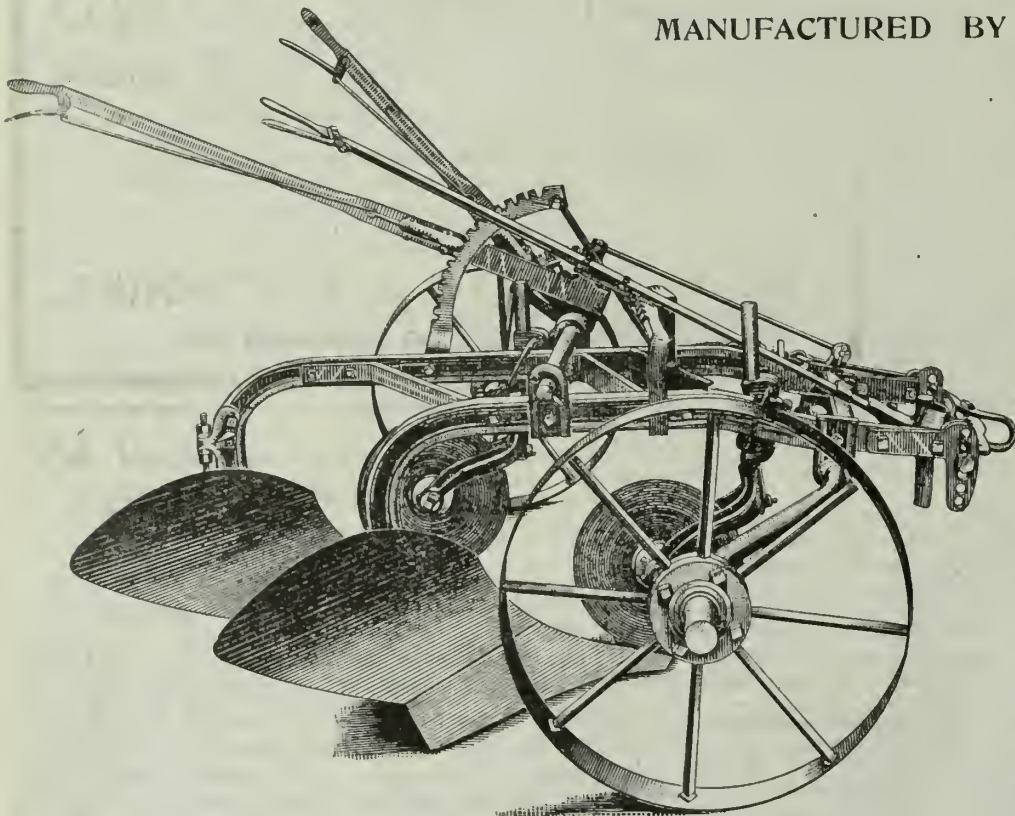
The worst of the situation from the foreign cattlemen's point of view is the fact that the hay ranches demand a high rate for feeding cattle, some charging and getting 15 cents per day per head for feeding. In order to get out whole on that kind of a layout, the cattle must make a gain of over two pounds a day, and the breed of beef raised in their country, not having been fed on "the food of the gods," don't grow that fast. So the cattlemen are disconsolate, and the local owners are concerned lest the situation operate to depress prices.

Sheep men are in fully as hard a case, and many will be forced to run the woolly pests on pastures that are ordinarily tabooed to them, being reserved for the more dainty feeding of cattle and horses.

Copious rains, which are now promised, will relieve the situation in a few weeks, but in the meantime there will be a grand rustle for green stuff by the owners of all sorts of animals.

# "Sweepstake" Gang Plow.

MANUFACTURED BY THE BENICIA AGRICULTURAL WORKS,  
BENICIA, CAL.



HIGH WHEELS,  
DUST-PROOF HUB BOXES,  
SPRING LIFT,  
CONVENIENT LEVERS.

FOR THOSE WHO PREFER THE MOLDBOARD PLOW, we make the finest line of Gang Plows ever introduced to the farmers of the Pacific coast.

We show one style—"THE SWEEPSTAKE"—and shall be pleased to send circulars and answer all enquiries.

SEND US MEMORANDUM OF YOUR REQUIREMENTS. Plows made all sizes—Chilled or Steel.

ADDRESS

## BAKER & HAMILTON,

Los Angeles.

San Francisco.

Sacramento.

### CHICO NURSERY CO. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS, BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get

swamped with work next spring?  
CHICO NURSERY CO., 1200--3rd St.  
Chico, Cal.

BUY  
STURDY  
CHICO  
TREES.

### DECIDUOUS TREES.

We shall be glad to book your orders at once for anything that you may need this season in the deciduous fruit tree line. Our stock is larger and better than ever. If you have decided just what varieties you will plant next season, write for quotations. If you are undecided, write for our new Nursery Catalogue. It is mailed for 5 cents postage.

FANCHER CREEK NURSERIES, Inc.

Box 18, FRESNO, CAL.

GROWERS OF TREES AND VINES OF ALL SORTS.



## Agricultural Review.

### Kern.

**GOOD PRICES FOR CORN.**—The farmers on the Kern delta are confronted by an unusual combination of circumstances this year. They have an exceptionally large crop of corn and are getting an exceptionally large price for it. So far about 125 tons of this year's crop has been shipped, and the price at present is \$22.50. Most of it goes to points in the central and northern part of the State.

### Kings.

**TURNING GRAPES INTO BEEF.**—Hanford Sentinel: Reuben Gray has this season been feeding his second crop grapes to his horses and cattle. He says that he turned his cattle into his vineyard after the raisins had been taken off, and for the first few days took care that the animals did not eat too many grapes, and after a few trials found that the animals would eat what they required and would then quit. He says, as feed for cattle, grapes are as valuable as they are for hogs, and will put fat on the carcass very rapidly. Mr. Gray will not sell his grapes for wine, and he thinks he can turn the product to good advantage by putting them into beef.

**LARGE GRAIN ACREAGE.**—Hanford Journal: J. W. Barbour says he will seed 3500 acres to grain this year, all but one section of which will be inside the Barbour reclamation district. He expects that a large acreage—probably 25,000 acres—will be put in grain in the lake bed the coming winter, providing the conditions of rainfall are propitious. Those who had grain in the lake region this year, on moist lands, made big money, as the yield was heavy and the price good.

### Los Angeles.

**LEMONS ARE LEMONS.**—Azusa Pomotrophic: As predicted early in the year by some of those who did not bud over their lemons, the price of that fruit has taken a substantial brace, and those who have fancy lemons for sale are going to get good prices for them. As an example of what is being realized in New York for fancy lemons we quote figures secured for three cars recently by the Azusa Foothill Citrus Association: On Nov. 9 a car from their house brought \$1290.60 gross; on Nov. 17 a car brought \$1372.80 gross; and on the 19th another car brought \$1484.75.

### San Bernardino.

**COUNTY WILL DO SPRAYING.**—Sun: The board of supervisors have determined that the county should take up the work of spraying citrus trees, at least in so far as the purchase of the machinery is concerned, and ordered the horticultural commission to at once order two power

sprays, which will be turned over for use in the Mission orchards, where yellow scale has made its appearance, as it has in many other parts of the valley. A committee consisting of C. M. Baxter, R. T. Curtis, Nat B. Hinckley, A. P. Nelson and Joseph Cole came before the board with a petition signed by other ranchers, asking the board to purchase the sprayers, and their request was granted. The two to be ordered will cost \$380 each.

**A GROWER WINS ON AN APPEAL TO SUPERIOR COURT.**—Redlands Facts: Judge Bledsoe has reversed the decision of Justice Thomas in the case of O. S. Dodds vs. Oakland Orange Co. and given the plaintiff judgment. Dodds shipped a carload of oranges to the Oakland Orange Co. The company refused full payment, claiming that the oranges were not as per contract. Dodds brought suit for the alleged deficiency, amounting to \$77.30. The case was tried before Justice Thomas and a judgment rendered in favor of the defendant. The plaintiff appealed to the Superior Court and Judge Bledsoe yesterday reversed the lower tribunal and gave plaintiff a judgment for all he had asked.

### Santa Clara.

**OLIVE CROP VERY GOOD.**—San Jose Mercury: The prospect for a large crop of olives in this county is very encouraging this winter. The trees in the different orchards are covered with fruit, and although it is only of medium size, the abundant yield anticipated is gratifying. Olive trees only bear, to any great extent, on alternate years. Last season in most of the orchards of this county the yield was rather light, but this season the conditions have been reversed. The Goodrich farm, known as the El Quito Olive Orchard, and the Buena Vista Olive Orchard, near Alum Rock, are the two largest and most productive olive orchards in the county, although there are many other smaller ones throughout the country. These orchards are looking well and will yield good crops. The fruit will be large enough within a month to harvest for pickling, but the olives will not ripen sufficiently for oil before February.

### Santa Cruz.

**HEAVY SHIPMENT OF APPLES.**—A San Jose dispatch says: The movement of apples this season began early, and up to date about 1200 carloads have been shipped from the Santa Clara Valley and Watsonville districts. The shipments have been divided between London, Liverpool, San Francisco and Los Angeles, the latter place taking large consignments. Many trees have been planted in this valley in recent years, notably in the moist lands near the bay and in the Santa Cruz mountains. On the whole, the season has been satisfactory.

### Sonoma.

**SOLD GOOD PROPERTY.**—Santa Rosa Republican: W. E. Harvey has sold his fine farm of 100 acres of choice Russian river land at Hopland, Mendocino county, to H. L. Purrington of Santa Rosa. The property is one of the best in southern Mendocino county and comprises 30 acres in hops, 20 acres bearing prunos, balance in alfalfa. The property is well improved. The price paid was in the neighborhood of \$17,000.

### Tulare.

**NEW WHEAT SAID TO SURPASS SONORA.**—Register: L. Weaver, who has been experimenting for the past three years with "California Spring" wheat, known also as "California Gem," is enthusiastic in its praise and believes it to be the coming wheat for this valley. He has grown it right alongside of Sonora, giving it the same treatment, and it has yielded from two to three sacks per acre more than the Sonora. As a milling wheat it is unsurpassed, according to his statement, bringing a much better price than Sonora. The flour produced from it is said to be of the finest quality made. Mr. Weaver had sixty acres last season, which may be considered as giving the new cereal a fair trial. Mr. Forrer of the agricultural experiment station has been experimenting with it for four years past, and we are informed reliably that he pronounces it to be the coming wheat of this country.

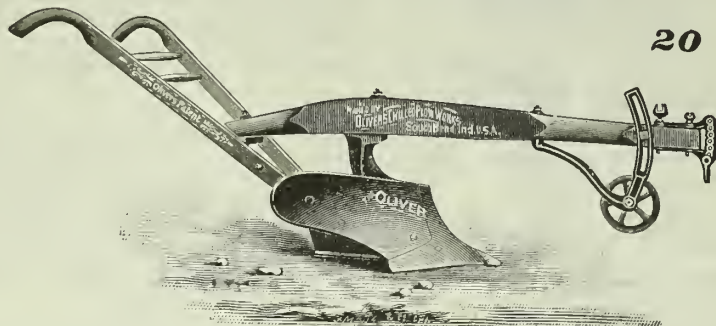
**JAPANESE PERSIMMONS.**—E. H. Kemble has contributed some Japanese persimmons to the county exhibit for the St. Louis Exposition, taken from his place near Tulare City. They are very large, several measuring as much as 11½ inches each in circumference.

### Ventura.

**THE WALNUT CROP.**—Democrat: The walnut crop of Ventura county this season averages better than that of any other county in the State, according to authorities of the year's production, though it is lighter than the yield of some former years. The prices, however, are good, which brings the profits up to a rate very satisfactory to growers. Lee Rose, who has one of the largest and most vigorous orchards in the county, near El Rio, had

## PUT YOUR CONFIDENCE IN OLIVER PLOWS

And you will not be disappointed.



20

## Remember we make both CHILLED PLOWS AND STEEL PLOWS

And constantly carry in stock a full and complete line of all sizes and patterns for ALL KINDS OF WORK.

Send for Catalogue to

OLIVER CHILLED PLOW WORKS,  
13 & 15 MAIN ST., SAN FRANCISCO, CAL.

## Horse Owners! Use GOMBAULT'S Caustic Balsam

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charge extra. Id, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## CALIFORNIA ALFALFA and FRUIT LAND COMPANY.

The bane of California's prosperity has been the sale of poor land to homeseekers.

We have some of the Best Land in California,

Hence in the World, suitable for Alfalfa and Fruit. The severest test of good land is its capacity to raise crops of alfalfa or fruit. We guarantee the land to be adapted to the purpose for which it is sold.

It can be had in Small Farms for Homes or in Large Tracts for Colonization.

Inquire further of

CHARLES WESLEY REED, President, Mills Building, 7th floor, Rooms 20-21, San Francisco, Cal.

Or of—

T. L. REED, Manager, Reedley, Fresno county, California.

## CHEAPEST and BEST TREES IN THE STATE.

Cherries, Sugar Prunes, Bartlett Pears, Peaches, Almonds, Plums, Plums. Prices at wholesale or retail. Also Seed Jerusalem Artichokes for hog feed.

CHARLES WESLEY REED, Mills Building, 7th floor, rooms 20-21, San Francisco, Cal.

a lighter crop this season than last, but his profits are greater for the reason mentioned. He raised this season upwards of 100 tons, for which he received \$12.50 per hundred pounds. The rate was fixed by the Walnut Growers' Association, hence the larger portion of the whole crop of the county has been sold at this price, but some lots in the hands of outsiders have brought prices in excess of that figure.

### Yuba.

**THE SEASON'S PACK.**—Marysville Appeal: The season's pack of the Marysville Cannery amounted to 1,500,000 cans of fruit and 6000 dozen glass jars of cling peaches. The fruit put up consisted mostly of fine cling peaches, for which this section of the State has a great reputation. The goods in glass are considered the finest in the State. A large percentage of the entire pack was extras. Nearly the total output of the cannery has been shipped and the small portion remaining will go out before the first of the new year.

## W. & P. ROOFING.

Best wool felt, thoroughly saturated and coated; elastic, and unaffected by heat or cold; will not rust or drip like metal; unaffected by acid fumes or gases; is not inflammable like shingles. Good for wineries, creameries, factories, warehouses — any place where steam or vapors abound; for roofing and lining dry kilns—will stand heat and insulate perfectly; for dwellings, stables, barns, stock sheds, poultry houses—anything needing protection from sun and rain. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.**

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. Room 14, fourth floor, Mills Building, San Francisco. Telephone Bush 348

## BRIGHT'S DISEASE AND DIABETES NEWS.

San Francisco, Nov. 20, 1903.

To the Farmers of California:

As San Francisco druggists personally acquainted with the facts we are asked to certify to you the curability of chronic Bright's Disease and Diabetes, and however unreasonable it may seem to you yet such is the fact. Up to a year ago we never heard of a genuine case of Bright's Disease or Diabetes recovering. Now it is a common occurrence in this City. A great discovery has undoubtedly been made. Many prominent people here have recovered and every one of us whose names are appended hereto have either had recoveries among our customers or have genuine chronic cases now recovering. And the percentage of efficiency seems to be very high, for there are very few failures.

Yours, &c.,

Ferry Drug Co., Lion Drug Co., Rialto Drug Co., E. W. Joy, C. F. Fulle, Green & White, Kilbourne's Pharmacy, Haman's Pharmacy, A. Di Nola, A. O. Schmidt, Kibbler's Pharmacy, Owl Drug Co., Central Pharmacy, Depot Pharmacy, Potts Drug Co., B. S. Dickhoff, F. A. Gay, C. D. Zeile, C. B. Pooler, N. Schwartz, A. E. Scammell, and many others.

The above refers to the newly discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes.

Send for literature to the JOHN J. FULTON CO., 407 Washington Street, San Francisco.



## The Home Circle.

### How Sweet Is the Reward.

'Tis but a little thing to do  
To lend a helping hand  
To one who stumbles on the road,  
And has not power to stand;  
And if a single touch of ours  
Can health and hope afford  
And joy impart  
To one sad heart,  
How sweet is our reward!

'Tis but a little thing to speak  
A tender word of cheer,  
To soothe and calm the troubled soul  
Oppressed with doubt and fear;  
It is not much to turn aside  
Sweet solace to afford  
At pity's call:  
The gift is small,  
But great is the reward.

The seed we scatter far and wide  
Along the mellow field  
Will lend a lodgment in the soil,  
And rich abundance yield;  
And everywhere the loving heart  
May cast its precious gold,  
Yet feel no lack,  
For it all comes back  
Increased a hundred fold.

How rich the recompense we win  
For favors slight and small!  
How little cause we have to fear  
That we shall lose our all!  
And yet how many, miser-like,  
Their precious treasures hoard  
From day to day—  
Give naught away!  
And miss the sweet reward!

—Josephine Pollard.

### My Uncle's Test.

When the dry voice of the little lawyer died away we three beneficiaries by the will stood amazed, astounded at its peculiar provisions.

My cousin, George Vardon, was the first to break the silence.

"The man must have been mad!" he exclaimed.

"It is such a strange will. If I understand it, his immense property is cut in halves, of which my cousin, Nora, receives one part, and the other is to be divided between Mr. Waring and myself," continued George Vardon.

"Quite right," assented the lawyer.

"But in the event of the death of Miss Nora Waring within one hour of the reading of this testament the entire property is to go to found an orphan asylum; not only her portion, but ours as well. In the event of either the death of Mr. Harold Waring or myself within the same time his portion is to be added to the share of Nora, and is to become hers. In case all three survive the hour, the property will be to us becomes ours unconditionally. Am I right?"

"Right again, Mr. Vardon," answered Mr. Brief, the lawyer.

"But why this absurd provision about our sudden death within the hour? I assure you"—with a nervous little laugh—"I have no immediate intention of giving up the ghost, Miss Nora looks superbly healthy and Mr. Harold Waring is at least not an invalid."

"I cannot explain the will at all. The old gentleman had queer fancies gathered during his long sojourn in India. But you may depend upon it that he was quite sane and that the testament is absolutely valid. I drew it up myself, and there is no possible flaw in it. Let me call your attention again to another peculiar provision in the will. You three are to go at once into the blue room, close the door and remain there fifteen minutes. You will find upon the floor a carved box, which one of you is to open. It may possibly be that in that box there may be some explanation of the terms of the will. I have the honor to wish you a very good day and long life to enjoy your property."

With which Mr. Waring bowed himself out of the room.

My uncle had amassed a large property in India, where he had led a very curious life, being familiar with a very mixed company of natives and whites. His confidential valet, Lal Singh, was a man of such varied accomplishments that I never found him looking

at me without feeling the creeps shiver down my back.

I, Nora Waring, was the favorite of the three kinsfolk who were left my uncle upon his return to England. He was absurdly fond of me, and in continual fear lest I should make an unhappy marriage to some man unworthy of me.

As to his nephews, who were also my cousins, I had never been able to find out whether he liked them or not. Often I have observed him looking curiously at them, and then anxiously, for my cousins were patiently, if not confessedly, admirers of mine.

\* \* \* \* \*

I do not know what curious fancies passed through the minds of my cousins as the automatic lock of the blue room clicked behind us, but I confess that for my part I was ready to conceive all manner of Borgia devices. From the puzzled, strained look on the handsome face of George, I knew he was worrying over the situation.

As for Harold Waring, he strode in with his easy, debonnaire swing, looking every inch the soldier and gentleman.

The room was bare of all furniture save a desk and a small table in one corner, on the top of each of which lay a cane walking stick. The carved box mentioned in the will stood on the floor in an opposite corner.

"Let Nora open the box. It will be something to remember when we laugh about it in the future," suggested George.

We walked over together to the box, and I was about to turn the key when Harold Waring thrust me roughly on one side, struck by some sudden impulse of danger.

"No, no, Nora! Let me!" he cried, and quickly turned the key.

The lid rose from the box before he had time to touch it, and from beneath it slid half a dozen horrible flat heads and sinuous necks. I shrieked aloud in terror, and fled screaming from the room to the door. But the walls flung back my cries, and the door seemed to mock my efforts to wrench it open. I was in a palsy of agony, expecting every moment to feel the dreadful clutch of death fasten on me.

"Courage, Nora, courage! We'll be all right, little cousin," cried a tremulous voice in my ear.

The strong arm of Harold Waring was wrapped about my waist, and I felt myself propelled toward the table. He lifted me from the ground and leaped across a reptile which barred the way. George Vardon was already cowering on the table, beside himself with terror, all manhood gone. His face was ashen gray, and his limbs shook beneath him.

"Keep back!" he cried; "there is no more room for more, and I got here first. Keep back, curse you!"

He seized the cane which lay on the table and struck out wildly at us. Harold warded it aside and lifted me to the table.

"There is room for two," he said. "And, if there was room for only one, that one should be Nora, you coward!"

"Jump, Harold!" I cried; "jump quick!"

He leaped aside just in time to avoid the spring of the cobra. He circled around the room, jumping from side to side in his frantic efforts to avoid the terrible death which menaced him.

My heart stood still. It seemed to me that the room was filled with those ghastly, erect, quivering bodies, with hooded heads, from which shot forked tongues of death, with unnatural, distended necks.

I knew now the man whom I loved, and I covered my face with my hands, that I might not see him stricken down before my eyes. But the awful fascination of it was greater than my will. I had to look again. The face of Harold Waring was covered with beady perspiration, and in his eyes lurked grew-some despair.

"The stick!" he gasped, as he passed the table.

But George Vardon clung to it desperately, imploring Harold to save him at any price, for heaven's sake save him.

"Oh! you coward," I flung at him.

Then with a sudden inspiration:

"The stick on the desk, Harold," I cried to him.

He reached the desk in safety, grasped the stick, and as he touched the roller-top desk it swung back. From the desk two more cobras slid with a dull thud to the ground. Harold Waring made his way to the corner of the room, and made a last stand with his back to the wall.

Again and again he beat back the venomous reptiles with swift cuts of the stick, or tramped upon them with his heavy boot heels. But the end was near, and I knew it.

I could stand it no longer. Snatching the stick from the palsied hands of George Vardon, I leaped to the ground and made across the room. I heard a curious whistle, and instantly every reptile fell suddenly still. The whistle was repeated, and they began to crawl toward the box from whence they had come.

A panel slid aside in the wall, and my late uncle's valet, Lal Singh, stood smiling in the opening.

He looked from one to another of us with a curious light of understanding in his eyes, as if he appreciated perfectly the part that each had played in the scene just finished. Then he came forward with his usual obsequious bow and handed me a letter.

I took it, swayed uncertainly for a moment and pitched forward in a faint. When I came to myself Harold was bending over me with a face like chalk. Lal Singh and George stood back a little way, the one still smiling, the other with twitching limbs.

I tore open the letter and read it. The signature at the bottom was my dead uncle's:

DEAR NORA—There can come to a woman no greater misery than to marry the wrong man. She had better be in her grave than to find that the man she has promised to love and honor is selfish and a coward. From long experience I know that it would be useless for me to tell you which of your cousins is a man and which is not, so I have arranged a little test for you to judge them by. It is at supreme moments that there appears the difference between the coward and the brave man. For that reason I have brought you and them face to face with such a moment. If the strain has been a hard one, remember it has been only on account of the great love I bear you, and forgive me. JAMES WARING.

I handed the letter to Harold Waring, and he read it aloud. George Vardon shrank back in shame, his breath coming in labored gasps.

When he had finished reading, my soldier cousin faced me, but with a countenance from which all color of blood had fled.

"And this—'little test'—has it availed, Nora?" he asked.

There was something in his manner that forbade me to trifle with him.

"Yes, I know now," I said. "It is you I love, Harold."

He took me in his arms and kissed me once, then put me from him.

"You will have but a short courtship and a sad, long, mourning, Nora, for I am about to die, sweetheart. I was bitten three times, and the bite of the cobra is—fatal," he told me sadly. Then, smiling a little, "You see one of us is to die within the hour after all."

"Not so, sahib," interposed the soft voice of Lal Singh. "The fangs of the cobras had all been removed."—Illustrated Bits.

### Pigs Being Raised With Puppies.

Young Andrew Clarno has a pig on his ranch by the John Day river that is a freak fit for the dime museum. The pig's mother died soon after his birth and he was adopted by a female dog, which is sucking him along with her pups. It is a funny sight to see the pig and the pups having their breakfast at the same time, and funnier still to see the little porker take after a coyote along with the other dogs. This dog-gone pig turns up his nose at all the other pigs on the ranch, and will have nothing to do with them, except to help the other dogs chase them away when they come too near the house.—Fossil Journal.

### The Removal of Stains.

There is nothing more exasperating to the eyes of the tired housewife than unsightly stains on household articles, particularly table linen. Much needless expense and loss of time are caused by the use of costly cleaning fluids, when a home-made compound is oftentimes far more practicable and effective. The following simple recipe for javelle water is invaluable for the removal of stains from cotton or linen goods: Put one pound of washing soda into an agate kettle, add one quart of boiling water, boil from ten to fifteen minutes. Then stir in one-fourth pound of chloride of lime, breaking up all lumps with a stick, not a spoon. When cold, put into glass bottles. Allow it to settle and grow cold, when it is ready for use. This is a bleaching fluid for unbleached fabrics, as well as for cotton or linen goods which have become discolored with age or poor washing. Use about one cupful of the fluid in two gallons of hot water. Immerse the fabric for a few minutes and rinse in several waters, using soap to destroy the odor. But if the material is left too long in a strong solution it will be weakened, or eventually destroyed.

Among the most common tableware stains are those made from tea and coffee. To remove them spread the stained portions over a bowl and pour boiling water over them from such a height as to give it force. For chocolate stains the remedy is borax and cold water. Sprinkle with borax and soak in cold water, after which treat as for tea and coffee stains. For fruit stains use boiling water with one-half cup of javelle fluid to two gallons of water. Immerse stain; soak a short time and rinse well in several waters. Wine stains should be covered with salt as soon as made, then treated with boiling water, as the fruit stains were. Another good method of removing them is to cover with boiling milk. Milk and cream stains come out readily if washed in cold water while fresh. To cleanse an article soiled with meat juice, wash in cold water, then with soap and warm water.

To remove iron rust, oxalic acid should be employed. Wet with cold water; pour on a strong solution of the acid; let it stand a few minutes, and rinse. When the stain has disappeared, wash in ammonia water. For stove polish, wash while the black is fresh in cold water, with naphtha soap. For ink stains, there are three reagents: A fresh blot may be removed by milk; but if the ink has become dry, oxalic acid or javelle water will be effective. The acid is not always successful, however, as much depends upon the quality of the ink. The javelle water has been found satisfactory with every brand upon which it has been tried.

Perhaps the most difficult stain to remove is mildew. Although applications of "buttermilk and sunshine" may serve for a slight discoloration, a stubborn stain usually lasts as long as the fabric. The only successful remedy is the use of ammonia. If stains are bad, hang in the fumes of ammonia for a week. Then wash well. If necessary, repeat the process, or lengthen the time. For this purpose put a little ammonia in a jar and allow the stained part to hang into the can so that it will not touch the liquid. Cover and let stand as long as necessary. From the writer's experience it was proven that the above treatment will entirely efface even the seemingly most hopeless of mildew stains.—Tribune Farmer.

### Blueing With Indigo.

With a little care and a bag of indigo white clothes can easily be made to assume the pearly tint which was their ordinary character in the households of our grandmothers. Indigo merely tints the clothes, instead of dyeing them, as the modern blue bag does, and leaves no mysterious spots of iron rust caused by the use of Prussian blue in manufactured blueings. Neither does indigo streak the clothes when properly used. Tie the indigo in a thin bag, lay it in a small bowl or basin and pour boiling water over it. When it is thoroughly



scalded squeeze it, and pour the liquid thus obtained into a tub of clear water. Do not plunge a large number of pieces into the blueing water at once, but blue and wring each piece separately, and hang it up immediately to dry. It is not necessary to blue clothes every time they are washed. Every other time is sufficient. The indigo may be obtained from a druggist.

### Simplicity in the Home.

The principle of simplicity in house furnishing, which so many profess in these days and few practice, is applied with great literalness by the Japanese. They have very little furniture in their houses, and much of that little, like cushions, finger warmers and tobacco stoves, is only brought in when required. The only furniture which remains permanently in a room is a screen or two, a table a foot or two high—not for sitting at, but to support some valuable vase, and at New Year's time the three tiered sacred rice flour cakes, known as mochi. The beds are rolled up when not in use, and, though the owner may have many handsome vases, he does not, like an American housewife, try to display them all at once. One or two are brought out at a time, the rest being kept in a fire-proof depository made of cement.

The Japanese house is as simple as its furnishings. It is all on one floor, and is so light and perishable in its materials and construction that, even when secured for the night, it would in many cases scarcely bear the weight of a drunken man leaning against it. The windows are of paper stretched across a wooden trelliswork, and paper screens, sliding in grooves, serve as partitions. The better class of houses are a little more substantial, and have glass in the windows, but in a land of earthquakes a house that can fall about the ears of the occupants without doing them any serious injury is perhaps the most desirable.

These houses have no heating arrangements, except little hand stoves, and the Japanese are seldom warm in winter beyond the tips of their fingers. But they do not seem to mind cold and are so fond of air that among the poorer classes the whole front of the house is usually taken down in the daytime and replaced, if it is sunny, by curtains of dark blue or chocolate colored cotton.

Outside their houses the Japanese are as elaborate as they are simple within. Sometimes a man with a backyard only 12 feet square will convert it into a diminutive garden, with a lake and mountain, river, bridges and arbors, and if he has two or three acres, or even one, he will certainly do so. If he can do nothing more, every Japanese who can afford it will have a row of earthen jars, containing dwarfed blossoming fruit trees or the tiny firs in which the people of the Flowery Kingdom so delight, and which are made to grow smaller every year.—N. Y. Tribune.

### Flies That Pester.

The presence of flies in the house is a reproach. It is a falling away from a high hygienic standard, for the fly is a pestilential fellow. It must be admitted, however, that it is very difficult to keep habitable places free from flies. Poisonous flypapers are unsightly, and glutinous cords and traps are not very pleasant accessories in the household. Yet it is a matter not only of comfort, but also of health, that the fly should be excluded. The fly may easily be a pathogenic agent, owing to the fact of its choice of environment being oftentimes of the most disgusting character. When a fly walks across a suitable culture medium it leaves infection behind it, as shown in the colonies of organisms, which develop on the points with which the insect's legs have been in contact. The fly, therefore, should be driven out of our haunts.

It is a curious fact that the flies will not pass through netting, even though the meshes be quite large, unless there be a source of light, as from a window, behind it. Thus, in rooms with win-

dows only on one side, a net over the window will absolutely keep the flies out, although the meshes of the net may be an inch apart.—Lancet.

### Hints to Housekeepers.

To look cool is much more important than to feel cool! That is one reason why the transparent black gown, that shows the neck and arms through, is so popular for warm weather.

Some women who are particular over toilet accessories make their own tincture of benzoin. This they do by breaking up half an ounce of gum benzoin and immersing it in two ounces of pure alcohol. The liquor is then strained and bottled.

A simple wash for that bete noir of the dainty woman, a greasy skin, is made by dropping half an ounce of tincture of benzoin very slowly into half a pint of elderflower water. Apply with a soft cloth, using instead of soap and water before retiring.

Red and yellow tomatoes make a combination salad pleasing to the eye as well as to the palate. The tomatoes chosen should be small, as they are served whole on lettuce leaves. Plunge into boiling water to remove the skins, chill on ice and serve with mayonnaise dressing poured over. A dust of paprika looks well on the golden mayonnaise.

When overcome by bodily fatigue or exhausted by brain labor, no stimulant, so called, serves so well the purpose of refreshment and rest, both bodily and mentally, as milk. When heated as hot as one can readily take it, it may be sipped slowly from a tumbler, and as it is easily digested, one feels very soon its beneficial effects. Few persons realize the stimulating qualities of this simple beverage.

Ice cream in jelly molds is a pretty novelty. Take the prepared jelly that needs only the addition of water to make it jelly, and pour it into ramekin cases. Teacups will do as well, however. Fill only half full. When hard, turn the jelly out on a plate and dig out the center with a teaspoon dipped in hot water. Leave only a thick shell of jelly around the bottom and sides. Fill the center with ice cream.

If the hands and feet perspire freely, a jar of powdered alum is a useful toilet adjunct. Powdered alum is not a good thing to use every day, but dusted on the inside of the hands occasionally, after washing, or over the sole of the foot and between the toes, it will dry the surface of the skin a little; or a little of the powder may be added to the water in which the hands were washed. Once in a while one sec an alum bath, recommended to take off that frightful, shiny look from the face. But alum is so drying, it can hardly be used without producing or accentuating wrinkles, and surely the shiniest skin in the world is better than wrinkles.

Too much care can not be taken in the arrangement of the luncheon if a girl or boy is to take the midday meal to school. Paraffine paper should be used to protect each article on the bill of fare from its neighbor, while a fresh linen or paper napkin should be furnished daily. The odor of a stale napkin is enough to discourage a fastidious appetite at the start. Pack the things in the order in which they are to be eaten, with the substantial of sandwiches, eggs or cheese at the top. Bananas are usually best placed on top, as they decay as soon as crushed. Other fruits—wrapped in paper, if juicy—should be laid at the bottom, with the sweets, such as home-made cookies, a turnover, a little individual cake or cup custard in between.

### 9 CORDS IN 10 HOURS



BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees, fells like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw MORE timber with it than 2 men in any other way, and do it FASTER, 250,000 in use. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secure agency. Address: FOLDING SAWING MACHINE CO., 55-57-59 No. Jefferson St., CHICAGO, ILL.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Best sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

### LOS CATOS--THE GEM CITY.

Property for sale in the town and its suburbs; the center of the fruit belt, beautiful for location, climate unexcelled.  
6½ acres ½ mile from depot, on Saratoga road; a snap. Price \$4500  
13 acres 1 mile out, in orchard; comfortable residence \$3500  
1 acre close in; elegant improvements; large house. \$4500  
26 acres, summer resort, 4 miles out, part in orchard; a bargain; near station. \$3500  
Extra bargain, right in town, 12-room house, well kept grounds. \$6500  
In heart of town, beautiful residence, well kept grounds. \$3600  
5-acre tract close in, with orchard. \$2000  
One same size adjoining. \$1800  
5-acre full bearing orchard, fine improvements. \$3000  
2½ miles out, large house, only \$3000

JOHN F. BYX8EE Pa'o A'to Santa Clara County, Ca.

### FRUIT AND VINEYARD LANDS

Sold in 10-Acre Tracts,  
\$160 to \$170 per Acre,  
In the Celebrated

**SANTA CLARA VALLEY,**  
On the direct road from San Jose to  
**STANFORD UNIVERSITY.**  
EASY PAYMENTS.

Address: B. E. BURNS, Mountain View, or  
I. J. TRUMAN, Call Bldg., San Francisco.

### GLENN RANCH,

Glenn County, - - California.

### FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

### F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

### CHEAP RATES

California, Washington, Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 398 So. Broadway, Los Angeles.



*The Special Displays of Holiday Merchandise, and the savings to be made in California's Grandest Christmas Store, are worth traveling many miles for.*  
**The Emporium**  
San Francisco California.



### A Position or Your Money Back.

A business education pays when you can turn it into cash. We want to help you make it pay. With over 500 positions to fill a year, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

**R. L. DURHAM,**  
305 Larkin St., San Francisco, Cal.

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.**  
113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. **A. VAN DER NAILLEN, Pres't.**  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



**Because** we have the best and cheapest iron, steel, lumber and the cheapest labor, we can and do make the best Saw Mill on earth. 4 ft. p. (see cut). Cuts 2,000 ft. a day. All sizes. Planers, Edging Mills and Edgers with our Patent Variable Friction Feed Portable Grinding Mills, Water Wheels, Lath Mills, etc. Our catalog shows all. Send for it. Lowest freight.  
**De Loach Mill Mfg. Co., Box 208, Atlanta, Ga.**  
114 Liberty St., New York.

### Colony Tracts in Stanislaus County.

We are laying out two Colony tracts, one close to Modesto City, in that Irrigation District, and one in the country part of Turlock District, 5 miles south of Ceres. In both of them we can sell you good land, in small lots, on terms to suit. If that is what you want, we shall be pleased to hear from you.

**MAZE & WREN, Modesto, California.**

### STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townships. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, December 2, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	80 1/2 @ 79 3/4	79 3/4 @ 79
Thursday	80 1/2 @ 79 3/4	79 3/4 @ 79
Friday	79 3/4 @ 80 1/4	79 3/4 @ 80 1/4
Saturday	80 @ 80 1/4	80 1/4 @ 80
Monday	80 1/4 @ 81 1/4	80 1/4 @ 81 1/4
Tuesday	82 1/4 @ 81 3/4	81 3/4 @ 80 3/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	42 3/4 @ 41 1/2	42 3/4 @ 41 1/2
Thursday	42 3/4 @ 41 1/2	42 3/4 @ 41 1/2
Friday	42 3/4 @ 41 1/2	42 3/4 @ 41 1/2
Saturday	42 3/4 @ 41 1/2	42 3/4 @ 41 1/2
Monday	41 1/4 @ 41 1/2	41 1/4 @ 42 1/4
Tuesday	42 1/4 @ 41 3/4	42 3/4 @ 42

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	34 @ 34 1/2	33 3/4 @ 34 1/2
Friday	34 @ 34 1/2	34 1/4 @ 34 1/2
Saturday	34 @ 34 1/2	34 1/4 @ 34 1/2
Monday	35 @ 34 1/2	34 1/4 @ 34 1/2
Tuesday	35 @ 34 1/2	34 1/4 @ 34 1/2
Wednesday	35 1/2 @ 35 3/4	34 1/4 @ 34 1/2
*Holiday.		

### Wheat.

There have been no startling developments in the wheat trade the past week. Exporters are doing next to nothing. They are having very little wheat crowded on them, but at the same time are doing very little competitive bidding. In fact, shippers are talking lower figures than have been lately quoted. Owing to the prevailing dullness, values for shipping wheat are poorly defined. Buyers claim that they are not justified in paying over \$1.32 for No. 1 shipping. They are not getting No. 1 wheat at this figure, however, and could not purchase great quantities at an advance of \$1 per ton on the price above named. Milling wheat is selling at a much wider range than ordinarily. Owing to the scarcity of strictly high grade wheat, there is considerable of common quality now being utilized by millers. Ocean freight rates continue decidedly low, with ships a drug on the market, and few wanted at any figure. There was one spot charter the past week for wheat and barley at 11s. 3d. to Cork for orders, usual option as to port of discharge. Another ship was taken for general cargo at 13s. 9d. to Liverpool direct, the same vessel to carry wheat as stiffening at 10s. The engaged list for grain loading is now small, aggregating only 15 vessels, representing a carrying capacity of about 40,000 tons. To load the disengaged ships now in port with grain would require about 200,000 tons. The ships now headed this way are good for 300,000 tons.

California Milling	\$1 40 @ 1 50
Cal. No. 1 shipping, alongside	1 75 @ 1 37 1/2
Oregon Club	1 35 @ 1 40

### PRICES OF FUTURES.

During past week the range on options was: December, 1903, delivery, \$1.34 @ 1.36. May, 1904, delivery, \$1.33 @ 1.34 1/2. Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at \$1.35 1/4 @ 1.35 3/4; May, 1904, at \$1.34 1/2 @ 1.34 3/4. Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
1-lv. quotations	65 7/8 @ 68 1/2	s-d @ s-d
Freight rates	11 1/4 @ s	10 1/4 @ 11 1/4
Local market	\$1 35 @ 1 40	\$1 35 @ 1 37 1/2

### LOCAL STOCKS OF GRAIN.

Stocks of grain in near-by warehouses on November 1 and December 1:

Tons.	Nov. 1.	Dec. 1.
Wheat	47,786	49,951
Barley	64,305	158,861
Oats	6,382	4,706
Corn	294	525

\*Including 17,656 tons at Port Costa, 31,312 tons at Stockton.  
\*Including 37,838 tons at Port Costa, 16,774 tons at Stockton.

Stocks of wheat in near-by warehouses on the 1st inst., show an increase of 2145 tons for the month of December. A year ago there were 77,538 tons of wheat in near-by warehouses.

### Flour.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Pancake brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	3 50 @ 4 00
Washington, Bakers' extra	3 50 @ 4 15

### Barley.

Present offerings of this cereal are largely ordinary feed qualities, for which sort the market cannot be termed firm. Not much is required to satisfy the demand from millers, and shippers have to be depended on for an outlet. Shippers are in reality handling the bulk of the low grade barley and are running it through screening machines, the screenings being turned on to the local market for feed and satisfying the bulk of the demand for this description. Choice to select of either the common variety of barley or of Chevalier is difficult to obtain in a wholesale way, and round lots of same would in all probability command a mod-

erate advance on extreme figures justified as regular quotations. A ship was chartered for straight harley cargo to Europe at 11s. 3d.

Feed, No. 1 to choice	\$1 11 1/4 @ 1 13 1/4
Feed, fair to good	1 10 @ 1 11 1/4
Brewing, No. 1 to choice	1 15 @ 1 22 1/2
Chevalier, No. 1 to choice	1 37 1/4 @ 1 47 1/4
Chevalier, common to fair	1 12 1/4 @ 1 32 1/4

### Oats.

Market is not very heavily stocked, but of ordinary grades of feed and milling oats there are enough for the immediate demand. Buyers are not as a rule taking hold very freely, confining their purchases to present needs. First class seed oats are not being offered in great quantity, are in good request, and are meeting with a firm market.

White oats, fancy feed	\$1 30 @ 1 32 1/4
White, good to choice	1 25 @ 1 27 1/2
White, poor to fair	1 20 @ 1 22 1/2
Milling	1 27 1/2 @ 1 32 1/4
Surprise, good to choice	1 25 @ 1 35
Black Russian feed	1 25 @ 1 40
Black for seed	1 50 @ 1 65
Red, fair to choice	1 20 @ 1 32 1/4

### Corn.

Large White, good to choice	\$1 25 @ 1 30
Large Yellow	1 25 @ 1 32 1/2
Small Yellow	1 40 @ 1 50
Egyptian Brown	1 25 @ 1 30
Eastern, in bulk	1 22 1/2 @ 1 27 1/2

### Rye.

Good to choice, new	\$1 25 @ 1 30
---------------------	---------------

### Buckwheat.

Good to choice	\$1 90 @ 2 25
----------------	---------------

### Beans.

Pea, fair to good, 100 lbs.	\$2 75 @ 3 00
Small White, good to choice	2 80 @ 3 00
Large White	2 30 @ 2 55
Pinks	2 40 @ 2 60
Bayos, good to choice	2 25 @ 2 40
Red Kidneys	4 00 @
Reds	3 00 @ 3 25
Limas, good to choice	2 85 @ 3 00
Black-eye Beans	1 90 @ 2 10
Garbanzos, large	2 00 @ 2 25
Garbanzos, Small	1 25 @ 1 50

### Dried Peas.

Green Peas, California	2 00 @
Niles Peas	2 30 @

### Hops.

The local market is quiet, and there is no special firmness observable, particularly for common and medium qualities, which constitute the bulk of present offerings. To effect free sales, concessions to buyers would have to be granted. Quotable values in the wholesale market are about a cent under those lately current. In Oregon some business is reported in common grades at 14 @ 15c., with choice commanding 20c. New York advices of recent date give the following resume of the market: "Although not quite so high, market shows continued firmness. Instead of choice shippers going at 31c. for export the top is now 30c. Grades a little under export are generally selling at 28 @ 29c. A good many holders of badly mold-damaged hops or trash are now becoming anxious and willing to sell at 11 @ 12c. and some business reported at those figures. Exports for the present appear to have been considerably curtailed and only when such buyers can obtain bargains are they interested. The German market is very strong on their fine color hops, but not much demand for their poorer grades. The English market continues about the same as of late, but nine-tenths of the crop is now out of growers' hands. On the local market some business has been transacted in both grades, and there seems to be continued inquiry from brewers."

California, good to choice, 1903 crop	18 @ 22
---------------------------------------	---------

### Wool.

Market remains quiet, with little offering from first hands and demand slow. In quotable values there are no special changes to note, but the figures are largely nominal for the time being. This is invariably a quiet time in the wool trade, and that there will be no business of consequence until after the opening of the new year is altogether probable. The steamer City of Sydney, sailing on Saturday last, carried 28,864 lbs. wool for New York.

### FALL.

Humboldt and Mendocino	11 @ 13
Mountain, free	9 @ 11
San Joaquin Plains	7 @ 10

### Hay and Straw.

Receipts of hay show some increase, as compared with preceding week, but are not of heavy volume as compared with arrivals of the past few months. Values have ruled steady to firm for common to select qualities, but demand has been only fair at full figures. Stocks are almost wholly in the hands of dealers, and they

are not crowding offerings to sale at the expense of making concessions, as they anticipate a better demand and a firmer market a little later on.

Wheat, good to choice	\$13 50 @ 16 50
Wheat and Oat	13 50 @ 15 50
Oat, fair to choice	11 00 @ 14 50
Barley	10 00 @ 13 00
Clover	10 50 @ 11 50
Alfalfa	9 50 @ 11 00
Stock hay	9 00 @ 9 50
Compressed	13 50 @ 16 50
Straw, per bale	55 @ 65

### Millstuffs.

Bran is in tolerably good supply, but is mainly in few hands; prices are tending downward. Market for Middlings is rather firm, stocks being light. Values for Rolled Barley are without quotable change. Milled Corn is lower.

Bran, per ton	\$19 00 @ 20 00
Middlings	24 00 @ 27 50
Shorts, Oregon	20 00 @ 21 00
Barley, Rolled	24 00 @ 25 00
Cornmeal	29 50 @ 30 50
Cracked Corn	30 00 @ 31 00

### Seeds.

	Per cwt.
Alfalfa, Cal., good to choice	\$15 00 @ 16 00
Alfalfa, Utah	15 00 @ 16 00
Flax	2 00 @ 2 50
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25

### Per lb.

Canary	5 @ 5 1/2
Rape	1 1/2 @ 2 1/4
Hemp	3 @ 3 1/2
Timothy	6 @ 6 1/2

### Honey.

Strictly high grade water white honey is not in large supply, either Comb or Extracted, and market for this sort is firm, with demand fair at full current figures. Stocks of amber grades, however, are rather heavy, as compared with the immediate inquiry, and wholesale transfers are somewhat difficult to effect at figures satisfactory to the selling interest.

Extracted, White Liquid	5 1/4 @ 6
Extracted, Light Amber	4 1/4 @ 5
Extracted, Amber	4 @ 4 1/2
Extracted, Dark Amber	3 1/2 @ 4
White Comb, 1-frames	13 @ 14
Amber Comb	9 @ 11

### Beeswax.

Good to choice, light per lb.	27 1/2 @ 29
Dark	25 @ 26

### Live Stock and Meats.

Beef is in good request at practically unchanged figures. Veal is in light receipt and market firm for choice. Current values on good to choice Mutton are being well maintained. Most of the Lamb now coming forward is close to Mutton, and the difference in price is not very marked. Prices for Hogs showed little change from preceding week, but market was not particularly firm.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net per lb.	6 1/4 @ 7
Beef, 2nd quality	5 1/4 @ 6
Beef, 3rd quality	4 @ 5
Mutton—ewes, 7 1/2 @ 8c; wethers	8 @ 8 1/2
Hogs, hard grain, 110 to 200 lbs.	5 1/2 @ 5 1/4
Hogs, large, hard, over 200 pounds	5 @ 5
Hogs, small, fat	5 @ 5 1/2
Veal, small, per lb.	8 1/2 @ 9 1/2
Lamb, Spring, per lb.	9 @ 10

### Poultry.

Demand was less active than preceding week and market was easier in tone. Four ears of Eastern poultry arrived and, in connection with moderate receipts of California product, gave more than an ample supply of most kinds. Turkeys, Chickens and Ducks sold at a quotable decline. Not many Geese arriving and only fat stock wanted. Pigeon market ruled steady, with inquiry principally for choice Young.

Turkeys, dressed, per lb.	22 @ 26
Turkeys, young gobblers, per lb.	20 @ 22
Turkeys, young hens, per lb.	20 @ 22
Hens, California, per dozen	5 00 @ 6 00
Hens, large	6 00 @ 7 00
Roosters, old	5 00 @ 5 50
Roosters, young (full-grown)	5 00 @ 5 50
Broilers	5 00 @ 5 50
Broilers, large	4 50 @ 5 00
Broilers, small to medium	3 50 @ 4 00
Ducks, old, per dozen	5 00 @ 6 00
Ducks, young, per dozen	6 00 @ 7 00
Geese, per pair	1 75 @ 2 00
Goslings, per pair	2 00 @ 2 25
Pigeons, old, per dozen	1 00 @ 1 25
Pigeons, young	2 00 @ 2 25

### Butter.

There has been further shading of rates on fresh butter, with stocks tolerably heavy of medium grades. Most of the retailers are running on cold storage holdings, making the demand for fresh for the time being of small compass and largely for well established brands of high grade.

Creamery, extra, per lb.	29 @ 30
Creamery, firsts	27 @ 28
Creamery, seconds	24 @ 25
Dairy, select	26 @
Dairy, firsts	23 1/2 @ 25
Dairy, seconds	20 @ 21
Cold storage	23 @ 26
Mixed Store	18 @ 20

### Cheese.

Stocks of flats continue heavy and for other than fancy new the market is slow and weak. Small cheese are in limited supply. Eastern cheese is offering in considerable quantity, especially ordinary qualities of Summer and Fall makes. California, fancy flat, new

California, good to choice	11 1/4 @ 12 1/4
California, "Young Americans"	13 @ 14
Eastern	14 @ 15 1/4

### Eggs.

Fresh are arriving a little more freely and market is inclining in favor of buyers, but for strictly select tolerably good figures are still being realized. Irregular qualities and mixed colors have to come into competition with cold storage eggs. There are liberal quantities of held eggs still in store, but are mostly in the hands of retailers and bakers. Prices for good cold storage stock are ruling very steady.

California, select, large, white and fresh	50 @ 52
California, select, irregular color & size	37 1/4 @ 45
California, good to choice store	28 @ 32
Eastern, cold storage	26 @ 28

### Vegetables.

Fresh vegetables are arriving in considerable quantity from Los Angeles section, especially Peas and String Beans. Receipts of Tomatoes and Summer Squash from the south are of fair volume. For choice qualities of all varieties tolerably good figures are being realized, but defective stock meets with a slow and weak market. Demand for Onions was not very brisk, but prices for select California were maintained close to figures of preceding week. Oregon Onions sold at a lower range.

Beans, Wax, per lb.	3 @ 4
Beans, String, per lb.	3 @ 4
Cabbage, choice garden, per 100 lbs.	60 @
Cucumbers, per large box	60 @ 1 00
Egg Plant, per box	— @ —
Garlic, per lb.	6 @ 8
Onions, Yellow Danver, per cwt	1 00 @ 1 25
Okra, Green, per small box	— @ —
Peas, Sweet Garden, per lb.	2 1/4 @ 3
Peppers, Green Chile, per box	35 @ 60
Peppers, Bell, per box	40 @ 65
Summer Squash, per small box	50 @ 65
Tomatoes, Bay, per large box	— @ —
Tomatoes, Los Angeles, per crate	50 @ 1 00

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50 @ 60 lbs. gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

### Potatoes.

For the ordinary run of offerings of Burbank Seedlings the market inclined less in favor of selling interest than previous week, but choice to select were, as a rule, firmly held. There is little likelihood of the market being glutted with first-class potatoes any time the current season. Sweetens were in fair supply and market rather easy in tone.

Sacramento River Burbanks	\$ 75 @ 90
Salinas Burbanks, per cental	1 15 @ 1 50
Petaluma and Tomales Burbanks	85 @ 1 00
Oregon Burbanks	90 @ 1 15
Sweetens	1 00 @ 1 25

### Fresh Fruits.

Apples were in liberal receipt from northern California and Oregon, but there were no heavy arrivals from other quarters. Demand was good for best qualities and market firm. Some fancy Spitzenberg from Lassen county brought \$2.25 per box, same figures being asked for Oregon Spitzenberg of very superior quality. Newtown Pippins, extra choice, sold up to \$1.75 in a small way. For a ear of Oregon Ben Davis apples \$1.25 per box was realized. Business was mainly within range of 75c @ \$1.25 for fair to choice apples, other than Spitzenberg, which variety is at present most in favor and is commanding best figures. Extreme prices are obtainable, however, only for the choicest fruit, wholly free from worms. Pears now offering are mainly out of cold storage. Grapes were in light receipt and included few choice, the latter bringing good figures. Raspberries in fine condition were scarce and higher. Strawberries were in light receipt and best brought tolerably stiff prices. Cranberries were steadily held.

Apples, fancy, per 4-tier box	\$ 1 25 @ 1 75
Apples, good to choice, per 50-box	65 @ 1 00
Apples, common to fair, per 50-box	30 @ 60
Cranberries, Coos Bay, per box	2 50 @ 3 00
Cranberries, Eastern, per bbl.	10 50 @ 11 50
Grapes, per crate	60 @ 1 00
Grapes, per small box	40 @ 65
Grapes, per large open box	75 @ 1 50
Pears, Winter Nellis, per box	1 00 @ 1 50
Pears, other varieties, per box	50 @ 1 00
Persimmons, per box	1 50 @ 2 00
Pomegranates, per large box	1 25 @ 2 00
Raspberries, per chest	2 50 @ 3 00
Strawberries, Longworth, per chest	5 00 @ 8 00
Strawberries, Melinda, per chest	3 00 @ 6 00

### Dried Fruits.

Business in the dried fruit market is of small proportions at present and mostly from second hands. There are heavy shipments being made of Small Prunes purchased some time ago on European account. The German steamer Nicaria, sailing Monday, took 2,299,570 lbs. of Prunes, being the largest single shipment of dried fruit ever made from this port. These Prunes are going to distillers in Europe, and it is understood that 3,000 tons or more were secured for distilling purposes. Much of this fruit is two years old and \$20 per ton is the price reported paid for a large portion. Some sales are known to have been made within the past few months down to \$15 per ton. Stocks of Small Prunes are now of rather light volume and they are being mainly held at \$25 @ 30 per ton. Large Prunes are still in good supply and are dragging, although being offered on the 2 1/2c.



able values for Peaches show a decline of half a cent, with market particularly weak for the higher grades. Nectarines sympathize with Peaches, although not many are offering. Quotations for Apples are unchanged, but to effect free sales prices would have to be shaded to buyers. Apricots, Figs, Pears and Pitted Plums are all ruling steady, stocks being small.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.	4 @ 4 1/2
Apples, extra choice to fancy, 50-lb boxes.	5 @ 5 1/2
Apricots, Moorpark.	8 @ 10 1/2
Apricots, Royal good to choice, 1/2 lb.	6 1/4 @ 7 1/2
Apricots, Royal, fancy.	8 @ 9
Figs, 10-lb box, 1-lb cartons.	55 @ 75
Nectarines, 1/2 lb.	4 @ 5
Peaches, unpeeled, fair to good.	4 @ 4 1/2
Peaches, unpeeled, choice.	5 @ 5 1/2
Peaches, unpeeled, fancy.	6 @ 6 1/2
Peaches, unpeeled, extra fancy.	7 @ 7 1/2
Peaches, peeled.	10 @ 12 1/2
Pears, halves, fancy.	9 @ 10
Pears, halves, choice.	7 1/2 @ 8
Pears, halves, fair to good.	6 1/2 @ 7
Plums, Black, pitted.	5 @ 6
Plums, Yellow, pitted.	7 1/2 @ 8 1/2
Prunes, Silver, good to fancy.	5 @ 7
Prunes, in bags, 4 sizes, 2 1/4 @ 2 3/4 c; 40-50s, 4 1/4 @ 4 1/2 c; 50-60s, 3 1/2 @ 3 3/4 c; 60-70s, 3 @ 3 1/4 c; 70-80s, 2 1/2 @ 3 c; 80-90s, 2 1/4 @ 2 1/2 c; 90-100s, 1 1/2 @ 2 c; small, 1 1/4 @ 1 1/2 c.	

COMMON SUN-DRIED.

Apples, sliced.	3 1/4 @ 3 1/2
Apples, quartered.	3 1/4 @ 3 1/2
Figs, White, in bulk.	3 @ 4
Figs, Black, in sacks, 1/2 lb.	3 @ 4

Raisins.

There is a fair movement outward, both by sea and rail. The Association quotations remain unchanged, but some outside stock is selling under Association prices.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5 1/4 c. per lb.; 3-crown, 5 1/2 c.; 4-crown, 6 1/4 c.; Seedless Muscatels, 4 1/4 c.; do floated, 4 1/2 c.; unbleached Sultanias, 4 1/2 c.; Thompson's Seedless, 5 1/2 c.	
Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5 1/2 c.; Valencia cured, 4 1/2 c.; Pacific do, 3 3/4 c.; Oriental do, 2 3/4 c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7 1/2 c.; 12-oz. packages, fancy, 6 1/2 c.; choice, 6 1/4 c.; in bulk, fancy, 7 1/4 c.; choice, 7 1/2 c.	

Citrus Fruits.

Oranges are in good supply for this date, both Navels and Seedlings. but are mostly under ripe and are not being much sought after for immediate use. There is a fair shipping demand. A large invoice of Mandarins and Tangerines arrived this week from Japan. Lemon market is rather firm for choice to select, but quiet and easy for common qualities, with quotations unchanged. Limes are in ample supply.

Oranges, Washington Navels, 1/2 box.	\$2 00 @ 3 00
Oranges, Seedlings, 1/2 box.	1 00 @ 1 75
Oranges, Japanese, as to size of box.	1 00 @ 1 75
Lemons, California, select, 1/2 box.	2 25 @ 2 50
Lemons, California, good to choice.	1 50 @ 2 00
Lemons, California, fair to good.	1 00 @ 1 50
Grape Fruit, 1/2 box.	1 50 @ 2 50
Limes, Mexican, 1/2 box.	4 00 @ 4 50

Nuts.

California Almonds, shelled.	16 @ 19
California Almonds, paper shell.	10 @ 11
California Almonds, soft shell.	7 @ 8
California Almonds, hard shell.	5 @ 6
California Walnuts, soft shell.	13 @ 14
California Walnuts, standard.	12 @ 13
Chestnuts, California-Italian.	8 @ 10
Peanuts, fair to prime.	4 1/2 @ 5 1/2
Peanuts, Eastern, hand-picked.	5 1/2 @ 6 1/2

Wine.

There is something doing in wine. Market for current year's vintage presents a firm tone. Considerable dry wine of 1903 has been already purchased at 16@17c per gallon, and more is wanted at same figures. Not only is there a good demand for this year's wine, but some has been already shipped, although the wine is not fit for shipment. It is of high grade, however, and is considered a better buy at same prices than last year's product. Some of last year's wine, doctored with sugar, is being offered at 9c per gallon. It is only fit for the sewer.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with the corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sks.	101,433	2,551,516
Wheat, cts.	14,487	892,639
Barley, cts.	32,400	3,554,664
Oats, cts.	11,038	585,983
Corn, cts.	7,094	65,389
Rye, cts.	645	28,178
Beans, sks.	10,810	449,234
Potatoes, sks.	24,152	542,997
Onions, sks.	2,805	84,100
Hay, tons.	1,052	93,161
Wool, bales.	287	31,061
Hops, bales.	305	20,918

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, 1903.	Same time last year.
Flour, 1/4 sk.	62,912	1,781,588
Wheat, cts.	256	387,670
Barley, cts.	8,654	2,830,581
Oats, cts.	492	11,657
Corn, cts.	335	7,784
Beans, sks.	358	17,205
Hay, bales.	3,202	75,646
Wool, lbs.	22,810	1,585,404
Hops, lbs.	1,050	389,485
Honey, cases.	421	8,517
Potatoes, pkgs.	1,281	39,732

# CUTTER'S BLACK LEG —AND— ANTHRAX (OR CHARBON) VACCINES.

CALIFORNIA'S FAVORITES.—THE LOWEST-PRICED RELIABLE VACCINES.

CUTTER'S BLACK LEG is the most favorably known vaccine in use in California to-day. Eighty per cent of vaccinating stockmen use it—a canvas of your neighbors will confirm this statement—with results entirely satisfactory.

It is put up in Powder, String and Pill Form. We recommend the Pill as being safer and more easily used than either the Powder or String Vaccine. Write for description of it and special Black Leg Pill Injector.

## SAMPLE TESTIMONIALS.

Office of Cone Ranch Company, Red Bluff, Cal., Oct. 6, 1903.  
The Cutter Analytical Laboratory, San Francisco, Cal.

Gentlemen:—Referring to your favor of recent date, would say that we have found in our experience of nearly three years in the use of your Black Leg Vaccine, that the results have been very satisfactory. We have vaccinated from 500 to 750 head each season, and each time after some deaths had occurred from Black Leg, and in every instance the disease stopped immediately after vaccination. Having given your vaccines such a trial, it gives us pleasure to recommend them to fellow stockmen. Respectfully,

CONE RANCH CO., T. H. Ramsay, Mgr.

Courtland, Nov. 3, 1903.

The Cutter Analytical Laboratory, San Francisco, Cal.

Dear Sirs:—I have used your Black Leg Vaccine for the last three years, with very gratifying results. Have never lost any cattle from Black Leg, but have used your vaccine as a preventive. I generally vaccinate about thirty head of young cattle annually. Mr. Ed. Johnson, a neighbor of mine, lost seventeen head out of twenty-five. After losing this number, he sent and got your vaccine, and has had splendid results since that time. I cannot say too much in behalf of your Black Leg Vaccine. Please send me enough of your powdered Black Leg Vaccine (single) for twenty head. Yours very truly,

J. M. BUCKLEY.

CUTTER'S ANTHRAX (or Charbon) VACCINE has been used in this season in herds in which disease had already broken out, and has not failed in a single instance to check the progress of disease.

## PRICES:

CUTTER'S ANTHRAX VACCINE (Double), per two bulbs, containing ten complete doses for double vaccination of cattle, mules or horses; or twenty doses for double vaccination of sheep or goats.	\$1 50
CUTTER'S ANTHRAX VACCINE (Single), per single bulb containing ten doses for single vaccination of cattle, mules or horses; or twenty doses for single vaccination of sheep or goats.	1 00
SPECIAL SYRINGE for using Anthrax Vaccine.	3 00

## CUTTER'S BLACK LEG VACCINE.

### POWDER AND PILL FORMS.

SINGLE, per package containing ten doses.	\$1 00
DOUBLE, per double package containing ten doses (for first and second vaccination of choice stock).	1 50

### STRING FORM.

SINGLE, per package of ten doses, including needle.	\$1 00
Per package of fifteen doses, including needle.	1 50
Per package of twenty-five doses, including needle.	2 25
Per package of fifty doses, including needle.	4 00
DOUBLE, per package of ten doses (including needle for first and second vaccination of choice stock).	1 50

### BLACK LEG VACCINATING OUTFIT.

Complete, including syringe, two mixing bottles and extra needles, for using Single or Double Powder Vaccine.

\$3 50

### BLACK LEG PILL INJECTOR.

For injecting Pill Vaccine under the skin; very strongly made and easiest used of any on the market.

\$2 00

## DISCOUNTS.

100-dose lots.	10% off list prices.
250-dose lots.	20% off list prices.
500-dose lots.	25% off list prices.

OUR PRODUCTS ARE STOCKED BY DRUGGISTS.

**WARNING!** Stocks of our vaccine in the hands of dealers should be fresh, for we exchange new for old vaccine. This provision for exchange sometimes leads unscrupulous dealers to try to substitute other vaccines when ours is called for. They do this when they have on hand old vaccine of other makes which they cannot exchange for fresh, or when they have vaccine on which they make a greater profit.

If your druggist has not got our Vaccine, or if he tries to sell you some other, refuse to take it and order direct from us. We pay all charges, including charge for return of money by express.

Write for our Black Leg and Anthrax booklets. Address

**THE CUTTER LABORATORY,**  
ROOM 322B, RIALTO BUILDING, SAN FRANCISCO, CAL.

## Another Liquid Smoker.

To THE EDITOR:—In your issue of Nov. 21, page 333, I see a controversy in regard to the use of liquid smoke for curing bacon and hams. You also wish to know what it is. That I can not say, but I do know that it is all right, for I have used it three years with good results. A LONG TIME SUBSCRIBER.

Honcut.

### Killed the Spavin.

THURBER, PA., Oct. 5, 1903.  
Dr. B. J. Kendall Co., Enosburg Falls, Vt.  
Gentlemen: Please send me a copy of your "Treatise on the Horse and His Diseases." I tried one bottle of Kendall's Spavin Cure and it killed a spavin. I am very well pleased with what it has done.  
Yours truly,  
ROY DEVERS.

## PRACTICAL ORCHARDIST

would like position as Foreman: 15 years' experience in growing and curing deciduous fruits. Best of references.  
C. E. BURNS, Fremont St., San Jose.

## An Item of Interest.

Is your property for sale? Then why not list it with us?  
Deal with a successful concern and success will be yours.  
DOES SOME ONE OWE YOU MONEY?  
No matter where the debtor lives, we can collect it for you.  
No collection—no fee. Fair, isn't it?  
Perhaps you need money. You can borrow on your personal note and pay in installments.  
Write us to-day. It may mean money to you.

**RIVERSIDE MERCANTILE AGENCY,**  
RIVERSIDE, CALIFORNIA.



Single and Double Acting  
Deep Well Pumps  
of the highest efficiency.  
STEAM AND GEARED PUMPS  
pumping water supply for cities,  
railroads and factories.  
**THE DOWNE PUMP COMPANY.**  
Box 21 Downsville, Pa.

## A Golden Rule of Agriculture:

Be good to your land and your crop will be good. Plenty of

# Potash

in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, free, by next mail, our money winning books.

GERMAN KALI WORKS,  
93 Nassau Street,  
New York.



MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

## MALTHOID ROOFING



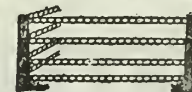
Never corrodes, never sweats nor expands; in fact never gives any trouble of any kind and is used for all classes of work. A very superior covering for barns, factories, depots, canneries, tanneries, sheds and mining property.

Send for booklet.

The Paraffine Paint Co.



San Francisco, Seattle,  
Portland, Los Angeles  
and Denver, Colorado.



A Few  
Points  
About

## TRUSS and CABLE FENCING.

It is the strongest wire fence made. Will not sag. Is sheep and hog tight. Easily repaired if broken. Cannot hurt stock. Lasts longer, looks better, and is better than any wire fence on the market.

Write for descriptive circular.

**Pacific Hardware & Steel Co.**  
401 Mission Street, San Francisco.



The Same

## CAHOON

BROADCAST SEEDER

has stood the test for 45 years and it still the best. Sows all the seed, is always uniform and it saves time, seed and strength.

Write for Free Sower's Manual. Tells how, when and where to sow all kinds of seed and how much to sow. Write now. Best seedling book published.  
**COODELL CO.,**  
58 Main St., Antrim, N. H.



## No Cold Corners

In Iowa Round Incubators

No half warmed eggs. By "round" system every egg gets same heat—bigger per cent of eggs hatched. Special regulator overcomes atmospheric changes. Free catalog tells the whole story.

IOWA INCUBATOR COMPANY, BOX 242, DES MOINES, IOWA



## Tuttle's Elixir

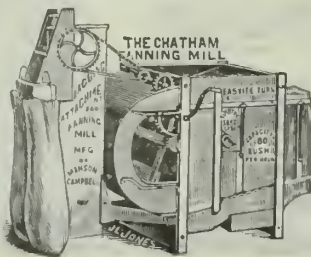


Cures all species of lameness, curbs, splints, contracted cord, thrush, etc. in horses. Equally good for internal use in colic, distemper, founder, pneumonia, etc. Satisfaction guaranteed or money refunded. Use and endorsed by Adams Express Company

TUTTLE'S FAMILY ELIXIR Cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience" FREE.

Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass. 437 O'Farrell St., San Francisco, Cal.

Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all Elixirs, they offer only temporary relief, if any.



The above cut represents the "Famous" Chatham Fanning Mill with Sacker Attached, which won the First Prize at the State Fair, Sacramento, Cal., this fall.

## Clean Your Grain for Seed.

Foul seeds and cracked grain require just as much time to put into the ground and just as much room in the ground.

This machine will clean any kind of grain, taking out all foul seeds, separating oats from wheat, cleaning and grading barley, cleaning alfalfa. We have special screens for cleaning all sizes of beans. Over one thousand of these Fanning Mills now in use in California.

Send for one of our beautiful circulars, telling you how to make "Dollars Out of Wind."

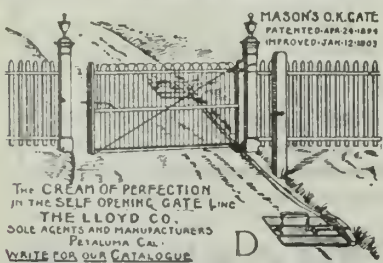
GEO. W. FOOTT,  
General Agent, VENTURA, CAL.

## WE ARE THE OLDEST SCALE MANUFACTURERS IN THE WEST.

(Incorporated in 1881.)

We have REDUCED PRICES 25%, and have retained the STANDARD that has made our goods so popular. We ship on approval. We pay the freight. We do repairing. We do as we say—save you MONEY on steel and wood frame SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, Patent Specialties, Etc. Investigate.

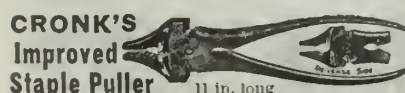
UNION SCALE CO.,  
Dept. 17, DES MOINES, IA.



PAGE

## Just As Soon As

you get through experimenting, you'll be using Page Fence. Our lithographed catalog tells why! PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



CRONK'S Improved Staple Puller 11 in. long IS AT THE FRONT. Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull staples when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid CRONK & CARRIER MFG. CO., Elmira, N. Y.

## THE VETERINARIAN.

Answers to Queries.

By E. J. CREELY, D. V. S., Dean of the San Francisco Veterinary College, 510 Golden Gate avenue.

TREATMENT FOR A DEHORNING WOUND.

TO THE EDITOR:—Will you please tell me through the columns of the PACIFIC RURAL PRESS what to do for a cow that has been dehorned, but one side has not commenced to heal and discharges pus, seemingly from the opening? She was dehorned with a large bunch about two weeks since. All the rest are doing nicely—never slacked in their milk. We used a common butcher saw, and plugged up the opening in the head with cotton wool saturated with lard and pine tar. Would the sawdust and hair likely set up an abscess in the cavity? Now, I don't know much about the anatomy of a cow's skull. Would it be a good idea to remove the plug of cotton and syringe it out with some antiseptic wash? COWMAN.

Los Banos.

Remove everything and cleanse thoroughly once daily with phenyle water, warmed. Use castile soap. Syringe out with hydrogen peroxide or bichloride solution (3000), after which use powdered iodoform, and cover up with cotton and collodium.

## FORESTRY.

The Strength of American Timbers.

Timber tests which shall determine the strength of the principal American timbers used for construction purposes are now in progress at Washington, D. C., at Yale University, New Haven, Conn., at Purdue University, Lafayette, Ind., and at the University of California, Berkeley, Cal. These tests are made under the direction of the Bureau of Forestry, and are for the benefit of lumbermen, construction engineers, and scientific men who are interested in the strength of different wood fibers. The Bureau of Forestry plans from the results of its tests to make tables of the strength of different American woods to which the engineer may refer when he wishes to know what timbers to use for certain purposes. The tests will be in cross bending and breaking, compression with and against the grain, and shearing.

No complete and satisfactory series of tests on large sticks of timber has ever been made in this country. Lumber manufacturers in the South and the Pacific Coast States are especially interested in this work, since they wish to know more about their product. They have contributed gratis much of the material used in the tests.

The chief timbers now being tested are the Southern pines and the red fir of the Pacific coast. In the laboratories at Washington tests are now in progress on loblolly pine sticks 17 feet long and 8 by 14, 8 by 8, and 8 by 4 inches. Special attention is given to the effects of moisture on the strength of wood. In the case of loblolly pine which has grown rapidly, the strength was found to decrease 50% to 60% after the dry wood had been soaked several days in water. The fact, however, is not yet established and will have to be proved by further experiments. The timbers tested are of the usual grades purchased in the market and are not selected pieces.

At the laboratory of the Yale Forest School in New Haven small selected pieces of longleaf pine, without knots or other defects, are being tested so as to learn what is the ultimate strength of the fibers.

At Berkeley, Cal., tests are being made on red fir from timbers contributed by red fir manufacturers.

Dr. W. K. Hatt, who is stationed at Purdue University, is carrying on a series of tests with hardwood timbers and is preparing for publication the results of all the tests of the Bureau.

ADVERTISER owns fully equipped poultry plant, who understands the business with \$200 to invest. S. C. White Leghorns' eggs \$1.00 per setting, \$6.00 per 100. Stock for sale. Address G. S. BOLCE, Natividad, Monterey county, Cal.

IF You vaccinate your stock,  
You contemplate vaccinating,  
You desire information about vaccines,

OUR VACCINES ARE THE LOWEST PRICED, RELIABLE GOODS ON THE MARKET.

The United States Vaccine Company, Inc.

Kirke, Geary & Co., Sacramento.  
Western Wholesale Drug Co., Los Angeles.

FRESNO, CAL.

## Black Leg Vaccine PASTEUR VACCINE CO. CHICAGO SAN FRANCISCO.

## National Wood Pipe Company

MANUFACTURERS OF

## REDWOOD WATER PIPE

From 3-in. to 10-ft. in diameter for

Water Works,  
Mining and  
Irrigation Plants.



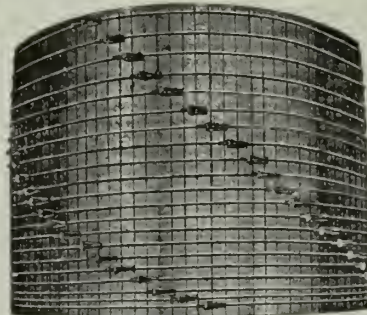
CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can be easily taken up and relaid, as it is absolutely indestructible. All pipe sold under an absolute guarantee. We contract for complete irrigation systems. Illustrated catalogue sent on application.

NATIONAL WOOD PIPE COMPANY, 6th and Mateo Sts., LOS ANGELES.  
301 Market St., SAN FRANCISCO.

## OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channel or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

The Excelsior Redwood Co.

SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET, SAN FRANCISCO.

## PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue with Prices.

BURNHAM-STANFORD CO.,

Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.

San Francisco Office, 40 New Montgomery St.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL!  
INVESTIGATE!

MOTOR VEHICLE CO.

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

Not to be compared to the ordinary Fresno Scraper offered on this coast. Heavier material, stiffer and superior construction. Runners in back of bowl.



"Fresno" Improved Scraper.

3 1/2-foot, 4-foot and 5-foot.  
Send for Catalogue.

HOOKE & CO. SAN FRANCISCO.



## SHARPLES TUBULAR FARM Separator

Why does every sensible  
farmer who examines a

### TUBULAR

buy it in preference to any other separator?  
Because he can plainly see that it is worth  
twice as much as other separators. You will  
understand why if you will let us tell you of  
its many fine points, too numerous to mention  
here. Write for free catalogue No. 131

THE SHARPLES CO., P. M. SHARPLES,  
Chicago, Ill. West Chester, Pa.



## FOUND \$7. FOR

A CREAM SEPARATOR  
that does the work perfectly, AU-  
TOMATICALLY, without pow-  
er or chemicals, in 30 minutes.  
**GUARANTEED.** Agents  
wanted, either sex. Address  
TALLEY SPECIALTY CO.,  
Dept. G Los Angeles, California.

## THE "BOSS" TREE PROTECTOR.

Made of Yucca Palm.

Is cheap, durable and quickly  
put on the tree. It prevents  
Rabbits from destroying your  
trees. A sure protection against  
frost, sun-burn, grasshoppers or  
dry winds. Can be easily re-  
moved, will last for years.

Send for samples.

### PRICES:

12 inches long,	\$ 9.00 per 1000.
14 " "	10.00 " "
16 " "	11.50 " "
18 " "	12.50 " "
24 " "	15.00 " "
30 " "	17.50 " "

Agents Wanted  
Everywhere.

YUCA MANUFACTURING CO.,

450 Santa Fe Avenue, Los Angeles, Cal.

## SOMETHING NEW UNDER THE SUN.



A Cheap, Effectual and Permanent  
Method of Propping Trees.

Cheaper than driving staples in the limb, and  
no possible damage to tree.  
Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

HOYT'S TREE SUPPORT CO.  
WATSONVILLE, CAL.

Or, R. M. TEAGUE, San Dimas, Cal.  
Distributor for Southern California.



## THE ARNDT Tree Protector!

A perfect, inexpensive pro-  
tection against all creeping  
and crawling insects.  
Agents Wanted Everywhere.  
WRITE AT ONCE.  
Michigan Cut Flower Exchange.  
WM. DILGER, Mgr.  
Sole Distributors,  
DETROIT, MICH., U. S. A.

WANTED, SMALL OR LARGE SECOND-HAND  
OLIVE CRUSHER.

Address F. M. ROESSLER, FRESNO, CAL.

Telephone Main 199.

BLAKE, MOFFITT & TOWNE,  
DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE.....Los Angeles.  
BLAKE, McFALL & CO.....Portland, Or.

## THE DAIRY.

### The Riverside Holstein Herd.

Mr. Cocke, appointed by the Dairy  
department of the State University to  
make cow tests in accordance with the  
rules of the Holstein-Friesian Associ-  
ation, was recently at the Riverside  
dairy of the Pierce Land & Stock Co.,  
on Rough and Ready Island, near Stock-  
ton, making his semi-annual trip, of-  
ficially testing the cows for the Associ-  
ation's advanced registry.

Some of the records made during this  
visit will prove of great interest to the  
dairymen of the coast. Juliana De Kol,  
a two-year-old heifer, gave in seven  
days 363 pounds, making 19 pounds 4  
ounces of butter. Manor De Kol Belle  
2nd, a three-year-old heifer, gave in  
seven days 439 pounds of milk, making  
20 pounds 6 ounces of butter. She is  
now completing a thirty-day record  
which the owners think will beat the  
world's three-year-old record.

This herd now contains a larger  
number of cows and heifers with official  
advanced register records than any  
other herd in the United States or  
Canada. It contains ten two-year-old  
heifers whose seven-day official records  
average over 15 pounds of butter each,  
and twenty-five cows and heifers whose  
seven-day official record averages over  
20 pounds 6 ounces each, these records  
being computed on 80% basis butter  
fat.

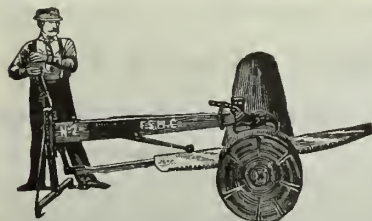
The entire output of cream from this  
herd is shipped daily to the Palace  
Hotel in San Francisco. The utmost  
cleanliness is observed in its handling,  
from the time it is drawn from the cows  
until it is shipped.

### Alfalfa Figures in Merced County.

Mr. C. H. Schmidt writes for the  
Merced Star the following calculation:  
Take 6000 acres of suitable land near  
Merced, now lying idle or farmed to  
wheat, barley, etc., put it into alfalfa;  
do it right and the 6000 acres will pro-  
duce 30,000 tons of hay per year (a low  
estimate). Stock the land with first-  
class dairy cows, allow nine tons of hay  
or its equivalent in green alfalfa per  
cow per year, allow a monthly income  
per cow of \$4.50 from the creamery,  
and we have the following result:

Thirty thousand tons alfalfa hay, or  
its equivalent in green alfalfa, will fur-  
nish feed for 3333 cows, which at \$4.50  
per month will produce an income of  
\$500 per day or \$15,000 per month, or  
\$180,000 per year—and 15% to 20% on  
investment.

The patrons of the Fountain City  
Creamery are doing better than \$4.50  
per cow per month, and yet first-class  
cows are not much in evidence. O. H.  
Easton reports for October \$8.87 per  
cow from the creamery. C. H. Bailey  
and J. W. Vaughn report an average of  
\$7 per cow during September. Instead  
of feeding nine tons alfalfa hay, or its  
equivalent in green feed, per cow per  
year, the dairyman will tell you such  
amount will pretty nearly suffice for a  
cow and growing calf besides.



The man who follows the time-honored custom of  
sawing wood will find a labor saver in the Folding  
Sawing Machine pictured here. It is manufac-  
tured by a company of the same name in Chicago,  
who say that it can take the place of the old-time  
crosscut saw, can be used in any situation where  
the crosscut can be used, and one man can saw  
more wood with it than two men can with the old  
crosscut saw; that it has a record of nine cords of  
wood in a single working day by one man, and is  
not only adapted to sawing felled trees, but to  
sawing down trees. When through with one job,  
it can be folded up in compact form, "like a jack  
knife," placed on the shoulder and carried off to  
other work.

MILFORD, MASS., Jan. 14, 1902.

Dr. Tuttle: Having given your liniment a good  
trial, I find it is the very best article of its kind in  
existence. My wife sprained her ankle very badly.  
After using two bottles of Tuttle's Family Elixir  
was able to be about as usual. I can not say  
enough for Tuttle's Family Elixir.—T. J. WEBER,  
51 West St.

## IT PAYS TO HAVE A U. S. SEPARATOR

It is the best money-making and money-saving machine a  
dairyman can have.

It makes more money by getting more butter-fat out of the milk.

It also makes more money by leaving the cream in such fine condi-  
tion, that the butter made from it takes the Premiums at the Fairs and  
elsewhere. If you do not believe it, read the following letter:



\$65.00 U. S. SEPARATOR EARNS \$53.00 IN PREMIUMS FIRST SEASON.

SPRINGFIELD, ILL., Oct. 31, 1903.

At the State Fair this fall I took the two Blue  
Ribbons on Pail and one on Print, the White  
Ribbon and Sweepstakes on Dairy Butter.

I use a United States Separator (No. 8,  
\$65.00) purchased this year, and my premiums  
amounted to \$53.00. Quite a help in paying for  
my Separator. It is needless to say I am well  
pleased with it, and find it profitable to have a  
U. S. Cream Separator.

Mrs. W. M. CORRINGTON.

We find by reference to our list of premiums  
paid on Dairy Exhibits at the Illinois State Fair  
of 1903, that Mrs. W. M. Corrington received  
premiums amounting to over \$53.00 in that  
Department, as stated above.

W. C. GARRARD,  
Sec'y Illinois State Fair.

The above is only additional proof of what thousands of dairy-  
men all over the country are daily finding out—that

In order to make the most money out of cows,  
it is necessary to have a U. S. Separator.

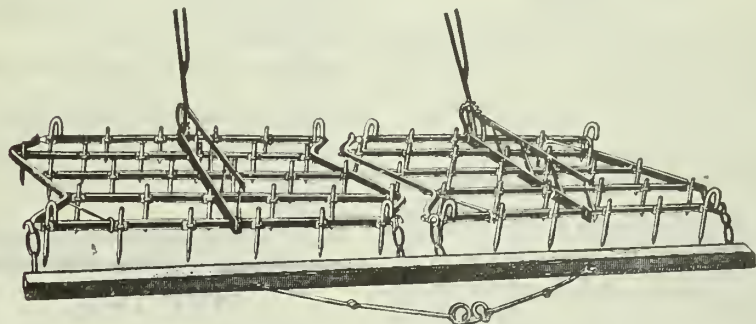
Illustrated catalogue free for the asking.

We transfer our separators from Chicago, La Crosse, Minneapolis, Omaha, Sioux  
City, Hamilton, Ont., Montreal, Sherbrooke and Quebec City. Address all letters to

Vermont Farm Machine Co., Bellows Falls, Vt.

343

Hooker & Co.  
16 & 18 DRUMM ST.  
SAN FRANCISCO.



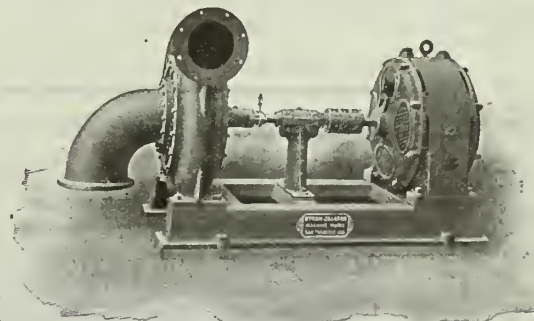
## Orchard Lever "U" Bar Harrow with Channel Frame.

For orchard work we furnish guard rails on outer sides  
to prevent injury to trees.

THE STRONGEST ORCHARD HARROW MADE!

Hooker & Co.

16 & 18 DRUMM ST., SAN FRANCISCO.



Jackson Patent Special Horizontal Centrifugal Pump Direct  
Connected to Motor.

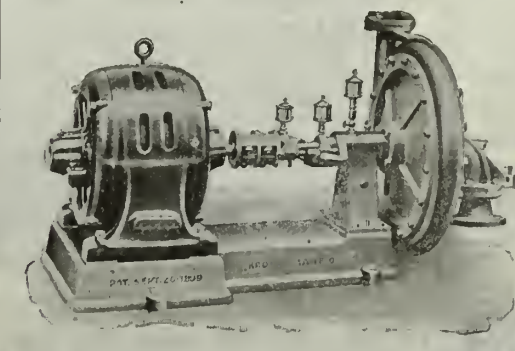
## WONDER OF THE AGE.

JACKSON'S LATEST IMPROVED  
CENTRIFUGAL PUMP for raising  
water from 10 feet to 2000 feet.

Efficiency 70 to 84%, if properly in-  
stalled.

For irrigating, reclamation, min-  
ing, etc.

BYRON JACKSON MACHINE WORKS,  
411 Market St., San Francisco.



## TRIED AND TRUE KROGH PUMPS.

First and last and always best for all  
kinds of work.

Send for our Catalogue "L." Address

KROGH MANUFACTURING CO.  
519 Market Street, San Francisco.

## GREENBANK

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.



## FRUIT MARKETING.

## The French Apple Harvest.

From UNITED STATES CONSUL THORNWELL  
LAYNES, Rouen, France.

This year's apple harvest in France will be unusually short on account of the late frosts and the ravages of the caterpillar. Prices will be even higher than those of 1902.

In the Department of Brittany as high as \$3.50 was paid per barrel. Bittersweets are at present quoted at 150 francs (\$28.95) per ton.

The apples of this department (Seine-Inferieure), which last week sold for 170 francs (\$32.81) per ton, are now offered on the Rouen market for \$31.85 and less; this is caused by the entry of foreign fruits. French journals note the increasing importations of American dried apples, which are offered at Havre at \$8.68 per 220.46 pounds, present delivery, and at \$7.72 for December delivery. During the last week 198,414 pounds were discharged at Havre. "This invasion," says the Agriculture Moderne, "very materially affects the price of apples."

The situation seems not only bad for the whole of France, but for all of Europe, Spain excepted, her harvest being extraordinarily large. German journals say that the apple crop altogether will be the smallest known. France has already imported \$115,800 worth of apples from Spain, and cargoes continue to enter.

Evidently the opportunity for American dried-fruit exporters is at hand, and already some are taking advantage of it in this city.

Rouen, France, Oct. 14.

## New Patents.

DEWEY, STRONG & CO.'S SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR THE WEEK ENDING NOVEMBER 17, 1903.

- 744,271.—WRENCH—J. H. Adams, Fullerton, Cal.  
744,272.—PUMP—R. Addison, Pasadena, Cal.  
744,159.—SWITCH TURNER—L. L. Bigelow, Seattle, Wash.  
744,029.—GOPHER TRAP—C. H. Birdsall, Corona, Cal.  
744,288.—WATER ELEVATOR—J. L. Brown, Los Angeles, Cal.  
744,163.—CONVEYOR—J. A. Brown, Portland, Or.  
744,474.—PENCIL—A. E. Buckingham, Oakland, Cal.  
744,289.—RAILROAD SWITCH—G. C. Calentine, Tacoma, Wash.  
744,047.—PAPER HOLDER—E. D. Casterline, Los Angeles, Cal.  
744,048.—CAN FILLING MACHINE—A. Cerruti, S. F.  
744,049.—CAN FILLING MACHINE—A. Cerruti, S. F.  
744,490.—EXCAVATOR—W. Cole, S. F.  
744,491.—EXCAVATOR—W. Cole, S. F.  
744,168.—SWITCH—J. M. Comer, Spokane, Wash.  
744,194.—PRESSURE REGULATOR—E. R. Cook, Sacramento, Cal.  
744,297.—GAS REGULATOR—E. R. Cook, Sacramento, Cal.  
744,397.—TELEPHONE—H. L. Cutter, Los Angeles, Cal.  
744,305.—SMELTER—Daniels & Clark, Nogales, Ariz.  
744,502.—PLAYING CARDS—H. S. Delamere, Fendale, Cal.  
744,508.—HAY PRESS—J. M. Dolan, Livermore, Cal.  
744,516.—GRAIN CLEANER RIDDLE—E. Early, Lathrop, Cal.  
744,181.—POTATO PLANTER—G. H. Elmer, Pleasant Valley, Or.  
744,322.—CONCENTRATING—A. D. Foote, Grass Valley, Cal.  
744,326.—CARD DISPLAY DEVICE—R. B. Friend, Oakland, Cal.  
744,528.—GAS BURNER—W. Ghiglieri, Stockton, Cal.  
744,192.—SCALE—F. W. Grey, Los Angeles, Cal.  
744,337.—TELEPHONE MOUTHPIECE—Griffin, Santer & Keith, Riverside, Cal.  
744,703.—DREIDGER—M. C. Harris, S. F.  
744,541.—PAVING—J. Heenan, Portland, Or.  
744,551.—LOCOMOTIVES—C. Houston, Benson, Ariz.  
744,078.—SHOE SOLE STRETCHER—C. R. Johnston, Eureka, Cal.  
744,370.—BATHING APPARATUS—L. V. Levinger, S. F.  
744,214.—GATE VALVE—L. P. Lowe, S. F.  
744,220.—FUEL BURNER—A. Neu, Colton, Cal.  
744,387.—REFLECTOR—D. J. O'Brien, S. F.  
744,602.—PHOTO DEVELOPING APPARATUS—E. E. Park, S. F.  
744,229.—CONCENTRATOR—J. W. Pinder, S. F.  
744,406.—ROPE CLIP—B. C. Riblet, Spokane, Wash.  
744,614.—ROTARY ENGINE—M. A. Rice, Los Angeles, Cal.  
744,693.—MATCH SPLINT MACHINE—W. Scharnweber, Seattle, Wash.  
744,119.—PAPER HOLDER—A. E. Sexton, Los Angeles, Cal.  
744,418.—ENGINE MUFFLER—R. C. Shepherd, Los Angeles, Cal.  
747,250.—BOILER FEEDER—F. W. & H. L. Shupert, Spokane, Wash.  
744,636.—DREIDGER BEARINGS—P. Small, Groville, Cal.  
744,364.—ORE FEEDER—L. R. Tullock, Angels Camp, Cal.

**100 FINE SILK PIECES,**  
Extra large size, lovely colors  
for fancy work, only 15 cents postpaid.  
2 lots for 25 cents. Money  
returned if not as represented. Address,  
EXCELLO CO., 472 Main St., East Orange, N. J.

**NO HUMBUG.** Farmer  
Bacon V. Stock Market and Cal. Deboner. Slopewine  
from routing. Makes 40 different car marks. Extracts  
Bacon. Price \$1.50. Send \$1 for trial. 1 lb. extra, send balance.  
Pat'd May 6, 1902. Hog and Calf Holder only 75c.  
GEORGE BOOS, Mfr., FAIRFIELD, IOWA.

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard. 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs. Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Mailiard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son,** Lick House, S. F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

## SWINE.

**THE SAN GABRIEL VALLEY HERD OF** Ohio Poland-Chinas won 10 premiums at the State Fair at Sacramento in 1903; won gold and silver medal. Young stock for sale. W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHBRED POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**SAMUEL M. COPPIN,** Cottonwood Farm, via Pleasant Grove, Cal. Choice fowls.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## SHEEP AND GOATS.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2502, San Francisco. Mfr's of Pacific Incubator and Brooder. Send for Catalogue.

## California's Finest Holsteins

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records. Young Bulls for sale.

**PIERCE LAND AND STOCK CO.,** No. 14 Turk Street, San Francisco, Cal.

**For Sale**—Pure Bred Poland-China Hogs, both sexes. This stock was imported from Illinois at considerable expense and is the best obtainable. **ROBERT WYLLIE,** Corvallis, Ore.

Money makes the mare go, but it takes a De Laval to make cows pay.

## When 400,000 Farmers

scattered all over the world prefer one make of Cream Separator to all other kinds, it goes without saying that the Separator of their choice must be vastly superior to the other machines.

This is the history of the

## DE LAVAL CREAM SEPARATOR

which possesses the "Alpha-Disc" and "Split-Wing" improvements, and these 400,000 farmers are finding the DE LAVAL CREAM SEPARATOR the best investment they ever made in dairying.

Might not this be true with you, too?

If you need anything in the way of Dairy Supplies, write to us. We carry the largest stock of dairy apparatus and supplies on the Pacific Coast.

Our new "20th Century" Catalogue sent on request; a lesson in dairying on every page.

## DE LAVAL DAIRY SUPPLY COMPANY,

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE

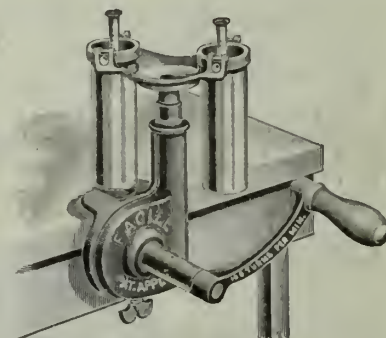
Cows and a De Laval Separator make the successful dairyman.

## DAIRYING FOR PROFIT

is easily accomplished with **SIMPLEX SEPARATORS** and **FACILE TESTERS.**



Not the  
Cheapest,  
but the  
BEST.



Hundreds now in use on this coast and giving the very best results. Agents everywhere. Send for Catalogues.

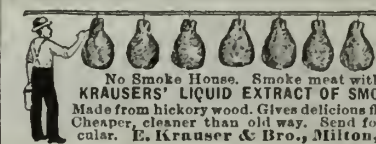
**BAKER & HAMILTON,**  
SOLE COAST AGENTS,  
Sacramento, San Francisco, Los Angeles.

Emery's Poultry Foods are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY  
**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

**FOR SALE,**  
**One French Draft Stallion,**  
Age, 7 years; color, bay; weight, 2200 lbs.

**YOUNG FRENCH DRAFT MARES,**  
In foal, both registered and graded.  
ADDRESS BOX 315, VACAVILLE, CAL.



No Smoke House. Smoke meat with **KRAUSERS' LIQUID EXTRACT OF SMOKE.** Made from hickory wood. Gives delicious flavor. Cheaper, cleaner than old way. Send for circular. **E. Krauser & Bro.,** Milton, Pa.

**BULLS FOR SALE.**  
Registered and High-Grade **SHORTHORNS.**

All inoculated for Texas Fever, at **CHOWCHILLA STOCK FARM.**  
Address.... **ISAAC BIRD,** Merced, Cal.

**FOR SALE.**  
**Dairy-Bred Shorthorn Bulls.**

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.  
Phone RED 123. **J. W. McCORD,** Hanford, Cal.



## Seeds, Plants, Etc.

### BARGAINS IN BERRY PLANTS

100,000 on hand. Price 2 cents each. Lawton Blackberry and Cuthbert Raspberries, \$5.00 per M. Loganberry tips, \$15.00 per M. Address  
T. E. BARLOW, Sebastopol, Cal.

### Blue Gums, Red Gums, Monterey Pines.

MONTEREY PINES in fine shipping condition, transplanted in boxes of 100 each.

Our stock is very large. Write for prices, stating quantity wanted, delivered at San Francisco.

W. A. T. STRATTON,  
PETALUMA, CAL.

## PHILLIPS CLING

and other Nursery Trees at  
REDUCED PRICES!

### THE CROCKER BARTLETT PEAR

a specialty!

E. L. CROCKER,.....LOOMIS, CAL.

### BLUE GUMS. RED GUMS.

Monterey Cypress---Transplanted in Boxes.

WRITE FOR PRICES.

Delivered on Wharf in San Francisco.

W. A. REINHOLDT, Petaluma, Cal.

### RIVERSIDE NURSERY

320 River Street,  
Santa Cruz, Cal.  
1500 CHERRY TREES, \$15 PER 100.  
Lewellyn, Olympia, Napoleon, Royal Ann, Black  
Tartarian, Blackheart.

5000 APPLE TREES, \$10 PER 100.  
4 to 6 ft.; Extra Well Rooted; Clean.

Yellow Bellflower, Y. N. Pippin.

Refer to City Bank,  
Santa Cruz.

HENRY SHAW.

### Bargain in Citrus Trees.

We have for sale several thousand fine orange trees---leading sorts---for sale at special rates if taken before Dec. 1st. Headquarters for trees on trifoliata or frost resistant root.

WAGNER'S NURSERY,

Tel. Res. Sub. 108, PASADENA, CAL.

### SEBASTOPOL NURSERIES

is the place to get

### Aphis Resistant Apple Stock,

Also

General Assortment of Nursery Stock.

SEND FOR PRICE LIST.

T. J. TRUE, Prop., Sebastopol, Cal.

ESTABLISHED 1876.

THE

## Myrobolan Nursery

JAS. O'NEILL, Prop.

Haywards, Alameda Co., Cal.

Grower of the Leading Varieties of

### Deciduous Fruit Trees.

No Irrigation,

Free from Borers, Other Pests or Disease.

Specialty: Apricots and Prunes on Myrobolan Root.

Estimates Furnished on all Lists.

Inspection of Stock Invited Before Purchasing.

Correspondence Solicited.

## COX SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

## BULBS

Now is the time to plant

HYACINTHS, TULIPS, NARCISSUS,

SPANISH IRIS, RANUNCULUS,

ANEMONE, ETC.

Send for our Bulb Catalogue.

## Fresno Nurseries.

ESTABLISHED 1889.

### SPECIALTIES---DECIDUOUS FRUIT TREES AND ROOTED VINES.

APRICOTS, on Apricot, Peach and Myrobolan roots.  
PEACHES, on Peach and Almond.  
PRUNES, on Almond, Myrobolan, Peach and Apricot.  
ALMONDS, on Peach and Almond.  
NECTARINES, APPLES, CHERRIES, PLUMS, PEARS, FIGS, ETC.  
ROOTED VINES---Wine, Table and Raisin Varieties.

### We Have the True Commercial Smyrna Fig.

SEND FOR PRICE LIST AND CATALOGUE.

Address

FRESNO NURSERIES, F. H. WILSON,  
Proprietor.  
P. O. BOX 42, FRESNO, CAL.

## TREES

FRUIT and ORNAMENTAL  
SHADE TREES for  
STREET and ROADSIDE.

Olives, Oranges, Lemons, Grape Vines, Resisting Vines.

### NUT TREES

JORDAN ALMOND, CHESTNUT, WALNUT AND  
PISTACHIO NUT.

Complete Stock of Large Palms, Evergreens, Roses, Climbers and Flowering Shrubs.

New Catalogue of 72 Pages Mailed Free.

## CALIFORNIA NURSERY CO., Niles, Cal

JOHN ROCK, Manager.

### OREGON NURSERY CO.

SOLE PROPRIETORS AND INTRODUCERS OF  
**BURBANK'S NEW PLUM-MAYNARD**

THE GREAT FROST-RESISTING  
**TILTON APRICOT**

Also the most complete line of Deciduous  
Fruit, Shade and Ornamental Trees, Shrubs,  
Plants, etc., on the Pacific Coast. See our  
Traveling Salesman, or write for complete  
catalogue and price list. Address

**SALEM OREGON**

No. 6--12th Street.

## TREES.

APPLE,  
CHERRY,  
PEACH,

PLUM,  
PRUNE,  
APRICOT.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

## BULBS FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

### TRUMBULL & BEEBE,

Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.

### LARGEST CITRUS NURSERIES IN THE WORLD

Trees True to Name; Standard Varieties; Catalogue Free.

R. M. TEAGUE SAN DIMAS CITRUS NURSERIES San Dimas, Cal.



ONE OF OUR 100,000 BLOCKS OF CITRUS NURSERY TREES

**ROCKY FORD CANTALOUPE SEEDS.**  
Our seeds are saved from the sweetest and most  
thoroughly meated cantaloupes. Price \$1.00 per lb.  
Special price in large quantities. You can't beat  
them. We grow the best. FARMERS' AND MER-  
CHANTS' BANK Rocky Ford, Colo.

FOR SALE, Choice Tulare and Summit Lake  
**ALFALFA SEED**  
Samples and prices granted on request.  
KUTNER-GOLDSTEIN CO., HANFORD, CAL.

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries  
SPECIALTIES.

These Dewberries have produced over 5 tons of fruit  
on 1/2 acre. For descriptive list, address

W. J. EMBREE,  
Rural Box 61, El Monte, Los Angeles Co., Cal.

### WE MAKE A SPECIALTY —OF THE—

GENUINE COMMERCIAL

## Smyrna Fig Tree.

Our price is \$15.00 per 100;  
smaller lots, 25c each.

We also have a large stock of Muir and Phillips  
Cling Peaches, Royal Apricots and Bartlett Pears,  
which we will sell at low figures. Send list of your  
wants and get our price.

MAYWOOD COLONY NURSERY,

W. HERBERT SAMSON, Prop.

## Berry Plants.

STRAWBERRY {MALINDA,  
BRANDYWINE.

LOGANS,

MAMMOTH BLACKBERRY,

LAWTON BLACKBERRY,

RED RASPBERRY (Cuthbert),

"PRIMUS" BLACKBERRY,

Something new. Fruiting season earlier than any  
other Blackberry. Money maker. Bushes incline to  
trailing habit. Send for descriptive circular.

Address O. O. EATON, Watsonville, Cal.

## TREES.

### WALNUT AND APRICOT,

SELLING FAST.

We carry a full line of all leading varieties of  
Citrus, Deciduous and Ornamental Stock.

Get our prices before buying. Price list free.

### Orange County Nurseries,

RICHMAN & MILLS, Proprietors,

FULLERTON, CAL.



## Spraying!

A NEW IDEA--

HOGUES'

## Eye Protector.

Absolute Protection from Poisonous Sprays.

Adjustable to any eyes. Made of finest optical  
glass. Will not rust. Will last for years. Send  
for Price List.

HOGUE OPTICAL CO.,

211 Post St., San Francisco, Cal.

## PATENTS

Our U. S. and Foreign Patent Agency  
presents many and important advan-  
tages as a Home Agency over all others,  
by reason of long establishment, great  
experience, our Washington branch which  
tends exclusively to our business before  
the Patent Office, intimate acquaintance  
with the subjects of inventions in our  
own community, and our most exten-  
sive reference library, containing offi-  
cial American reports since 1780, with  
full copies of U. S. Patents since 1872.  
All worthy inventions patented through  
DEWEY, STRONG & CO.'s Patent Agency  
will have the benefit of a description in  
the *Mining and Scientific Press*. We trans-  
act every branch of patent business, and  
obtain patents in all countries which  
grant protection to inventors. The large  
majority of U. S. and foreign patents is-  
sued to inventors on the Pacific Coast  
have been obtained through our agency.  
We are conservative and counsel prelimi-  
nary examinations in cases of doubtful  
novelty. Guide to inventors sent on  
request.

### DEWEY, STRONG & CO.

(ESTABLISHED 1860.)

PATENT AGENTS,

330 Market St., San Francisco, Cal.

—AND—

918 F St., Washington, D. C.



# EIGHTEEN YEARS AGO

The first NEW DEAL PLOW was  
built by the

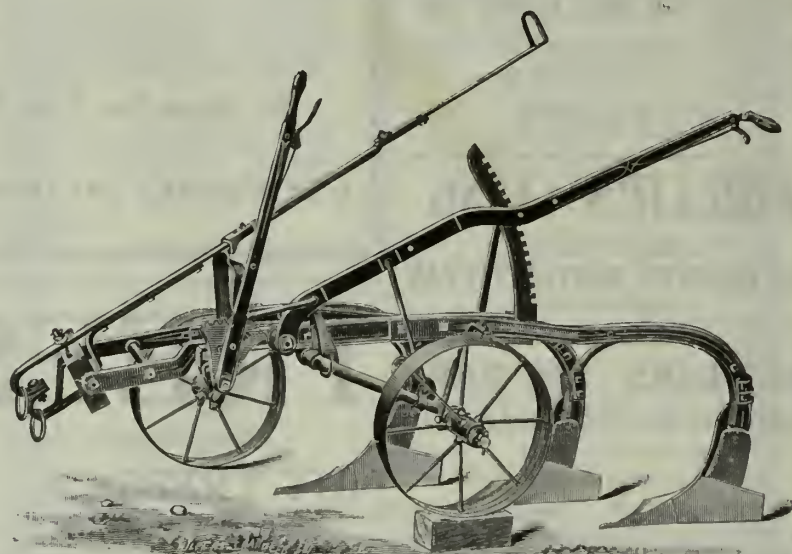
## John Deere Plow Co.

and it was by far the best Gang Plow built  
at that time. Many improvements have  
been made since then, but the

## New Deal

STILL HOLDS THE LEAD.

For heavy work and for use with traction  
engines we construct a plow with extra  
heavy beams and braces at a small ad-  
vance in price over the regular plow. All  
gangs are now equipped with high wheels  
and closed end dirt-proof boxes. All bot-  
toms have soft center steel mouldboards.

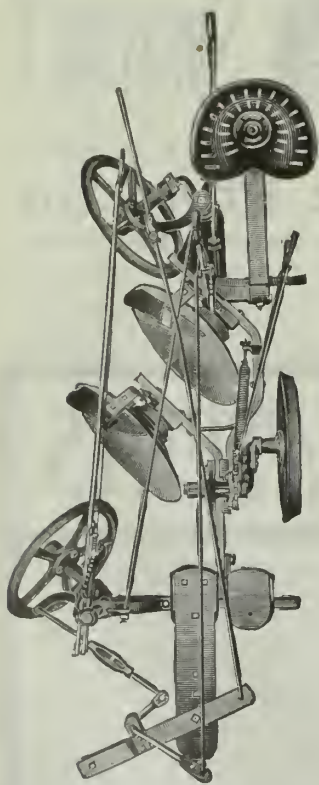


Made with 1, 2, 3, 4 and 5 Bottoms.  
8, 10, 12 and 14 Inch Cut.

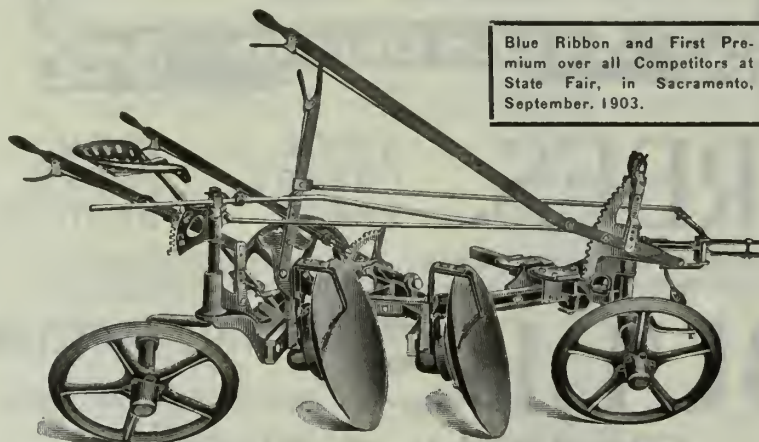
Write for Special Circular and Prices.

## Deere Implement Co.

309 Market Street,  
SAN FRANCISCO, CAL.



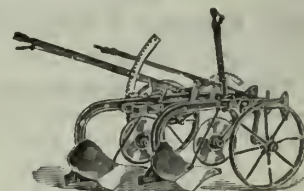
LA CROSSE DISC PLOW.  
Orchard Style --Top View.



LA CROSSE TWO-DISC PLOW (Field Style).

We can supply 1-2-3-4-5 or 6-Disc Plows.  
Notice the perfect land guage and leveling lever  
on rear wheel.

Blue Ribbon and First Pre-  
mium over all Competitors at  
State Fair, in Sacramento,  
September, 1903.



"Canton Clipper" 2-Furrow Gang Plow.



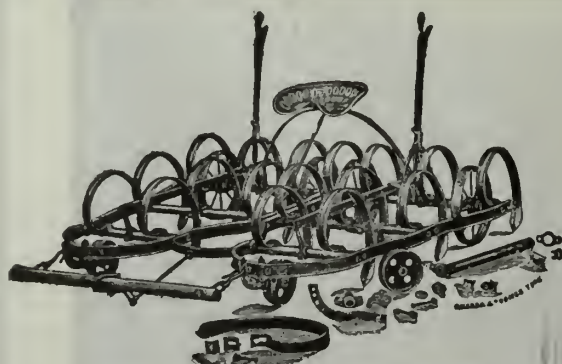
"Canton Success" Sulky Plow.



"Canton" Pony Disc Harrow.



No 38--"H & B" Pony Orchard and Vineyard  
Gang Plow.



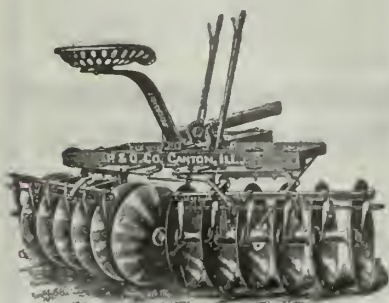
"York" Spring Tooth Lever Harrow, with Wheels.



"Canton" Orchard Cultivator.



"Kentucky" Disc Drill, Steel Frame.



"Canton" Reversible Disc Harrow.

## HOOKE & CO.

16 & 18 DRUMM ST.  
SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 24.

SAN FRANCISCO, SATURDAY, DECEMBER 12, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## The California Honey Industry.

California is to be credited with an annual export product of about 500 carloads whenever the seasons are fairly favorable. As the bees are at present largely dependent upon the nectar in the wild flora, and the nectar dependent largely upon the rainfall and other growing conditions over regions most likely to be visited by wide variations in such conditions, it is natural that the surplus honey product should sometimes fall from 500 carloads to nearly half that amount. There are changes coming into the industry, however, which will not only largely increase the product of favorable years, but will prevent such deficiencies as have been seen in the past because apiaries are multiplying in parts of the State where the bees can enjoy the more regular nectar flow of cultivated and irrigated crops like alfalfa and orchards. Great, then, as our honey product is, it will be greater and more sure.

It is interesting to note that, according to the fact gathering of the last census, California was the leading honey-producing State of the Union. In fact, in her worst years, when the export product may fall to 300 carloads, California is still nearly 50% in advance of her nearest rival, and that is Texas, and still has a product almost twice as great as any one of a dozen other States which can claim to be respectable in the apiary line. Again, it is a significant fact that the California product of honey is made from a smaller number of hives than some States keep to make half as much honey, for California is credited with an average product of 50 pounds to the hive, and the nearest approach to that is Wisconsin, with 26 pounds, Michigan 21 pounds, New York and Iowa 18 pounds, etc., while many States drop to the low level of Texas, with 12 pounds and even lower. California is evidently the home of the business-like bee and of the bee in good business as well.

It is claimed that there is a million dollars invested in bees and their belongings, aside from the land, and that one-fifth as much as that is invested each year in current supplies. The value of a good year's product is put at half a million dollars, so that it could be fairly claimed, probably, that no other industry can

make more return according to the investment than that which deals with bees, for none can proceed with so little outlay for hired help. The bee works for nothing, and boards herself whenever conditions are at all favorable.

California is getting a great deal of fame

through her eminence in bee keeping. In the Eastern bee journals, of which there are several, California seldom misses ample space, both in text and pictures, and makes notable contributions also to the advance of bee keeping art and science by the teachings of her investigators and practical operators. We have been struck with this fact, especially as we have been reading the proceedings of the National Association held last fall in Los Angeles. The American Bee Journal will be busy all the year with its stenographic report and with its side lights. The Beekeepers' Review has California in some issues from bottom board to surplus look-outs. Gleanings in Bee Culture has in almost every issue something large to say about California, either in the volume or the pertinence of writing. In

referring to the large the picture on this page seemed so large as it crossed two pages of Gleanings that we secured the loan of it so that we could show how artistically it could be used on one page and at the same time demonstrate how thrifty and prosperous a thing can be done by planting a bee outfit on rather a dry piece of land such as crops out now and then right in the midst of our great fruit valleys, and if it were not for the bees many such places could hardly be used to advantage. What a splendid contrast this prosperous apiary makes to the aspect which the place would bear without it. All the fame we

are getting in the bee prints and in the conversation of the hundreds who visit California because of the bee interests, will aid materially in building up the State along lines of population and industry.

But a few words of

particular reference to the picture on this page may be pertinent. It represents the Pomona Apiary of Mr. M. R. Kuehne, which is situated just outside the limits of Pomona, on San Bernardino Ave., 1½ mile southwest of Claremont College. The apiary is run on scientific principles and consists of about 200 colonies of bees, half of which are run for comb honey and the other half for extracted, which means that every spring the strongest stands are selected for comb honey. The house in the picture is the extracting house.

Mr. Kuehne writes to Gleanings that, although they have had quite poor seasons for the last six years, he has managed to make a living out of his bees so far, besides being healthier now than he was before coming to California. He is 60 years of age and takes the whole care of the apiary on himself. Besides the apiary shown, he has another of 100 hives at Etiwanda, which is operated wholly for comb honey. Thus he handles 300 hives in two apiaries, 23 miles apart, and has succeeded also in building up a local trade for his honey in Pomona and vicinity. Such men as Mr. Kuehne know how to do things; they are the ones we most need to build up the State.

The present situation in the honey industry shows that we need more such men to help those who are now doing so much for the higher success of their industry. Mr. O. P. Washburn, writing from San Francisco for the New York Grocery World, shows that prices of California honey have ruled low for several seasons—4 to 5 cents per pound f. o. b. for extracted honey, and 9 cents for comb—owing mostly to competition among producers to unload at a time hardly consistent with buyers' operations, which are always best in the fall. This condition has been remedied, however, by the forming of the Honey Association. Honey associations have had a wonderful effect in giving stability to the business, and producers generally are holding for higher prices than the associations, of which there are five in southern California, with the new large one just formed in central California.

The California Apiary—Hives and Extracting House—of Mr. M. R. Kuehne in Pomona Valley, Los Angeles County.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

**TWO DOLLARS PER YEAR IN ADVANCE.**

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.

Publishers

E. J. WICKSON.

Horticultural Editor

SAN FRANCISCO, DECEMBER 12, 1903.

## TABLE OF CONTENTS.

ILLUSTRATION.—The California Apiary—Hives and Extracting House—of Mr. M. R. Kuehne in Pomona Valley, Los Angeles County, 369.

EDITORIAL.—The California Honey Industry, 369. The Week, 370. QUERIES AND REPLIES.—Tough Grass for Packing Purposes; The Product of Alfalfa Hay; Gypsum for Alkali; Cabbage Planting, 370. Tomato Growing; Alfalfa Bacteria; The Lemon Industry; Pecans in Sacramento River District; Peach Pits for Planting, 371.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Dec. 7, 1903; Temperature and Rainfall, 371.

AGRICULTURAL SCIENCE.—Chemistry of Soils and Crop Production, 372.

THE DAIRY.—Large Cows, Well Fed, Pay Best, 372.

FORESTRY.—Plant Forests for the Bees, 372.

THE VETERINARIAN.—The Bang System for Stamping Out Tuberculosis in Cattle, 373.

THE POULTRY YARD.—The Practical Man Comments on the Poultry Business, 373.

THE VINEYARD.—Growing Emperor Grapes at Fresno, 374.

AGRICULTURAL REVIEW.—375.

THE HOME CIRCLE.—"Th' He That Striveth Not Is Dead: The Seven Ages of Man; Mistress Ashe's Punch Bowl; The Art of Getting to Sleep; Typhoid Fever, 376. A Turkey's Flight; No Use to Whine; Domestic Hints, 377.

THE MARKETS.—Produce Market; Fruit Markets, 378.

FRUIT MARKETING.—California Fruits in New Zealand; American Fruit in England, 380.

GOOD ROADS.—The Brownlow Bill Before the Present Congress, 381.

## The Week.

The great horticultural event of the year, the Fruit Growers' Convention, is in session at Fresno as we go to press on Wednesday. Our telegraphic advices indicate that the convention did not open very briskly, but soon exhibited a growing character and will no doubt show a strong finish. The telegraphed reports also indicate rather a low tone in the proceedings, for President Ellwood Cooper seemed to choose a minor key and to discourage further fruit planting, while Mr. R. D. Stephens of Sacramento seemed to hold that the shipping interests had only gone from the frying pan into the fire in the recent change of mastership in the refrigerator car business. It may be just as well to look on the darker side of things once in a while to keep from being dazzled, but it should always be remembered that fruit planting is going on and is destined to go on, and those who plant wisely and well are going to prosper. When one begins to lose courage and faith in his business, it is time for him to withdraw from it, and those who can be discouraged by prophecies of evil, while there are so many instances of individual success and of community prosperity and advancement, should by all means refrain from fruit planting. What California is doing in present production of fruits, to which our natural conditions are uniquely adapted, is but a fraction of the achievement which the younger generation will accomplish. At the same time, it is not well to anticipate such a result. Conditions will arise to favor it, and the warnings of the elders may restrain the youth to wisely planned efforts and cause them to refrain from plunging. The transactions of the convention will, as usual, occupy much space in our columns in the immediate future, and we expect they will convey much encouragement, as well as practical aid, to our fruit-growing readers.

One very important matter seems to have been strongly enforced at the opening of the convention, and that is the essential need of co-operation among growers for the advancement of the commercial aspects of the industry. President Cooper strongly impressed this in his annual address and his lead was followed by other speakers who are prominent in promoting organization among growers. We are advancing along this line, but with rather halting steps. Most encouragement is to be gained from a long look backward, disregarding the disappointments which have been encountered, except as lessons have been learned from them and feeling strong in the conviction that, though the present state of co-operation among growers is not all that is desirable, so much has been gained that there is much

ground for encouragement, if not for satisfaction. Every year sees new victories won in the effort to promote joint action for the common welfare. This year's convention takes another step toward desirable ends.

The very important question of taxation as affecting agricultural producers arose early in the proceedings, under the leadership of Mr. John Tuohy of Tulare, who is doing much good by his close study of economic questions. Mr. Tuohy advocates a plan for a fairer adjustment of the burden of taxation than now prevails. It is along the line of the Wisconsin law, which State raises its State tax from the incomes of corporations. This plan received commendation from Governor Pardee in his annual message to the last Legislature and suggestions were made in reference to applying the Wisconsin taxation law in this State. Mr. Tuohy's claim is that the present system of taxation for a State revenue is inequitable and is an object lesson each year that all property, real and personal, cannot be taxed at its full cash value, nor can all personal property be ascertained. He holds that the Constitution of California should be amended so as to provide a better method for raising a revenue for State purposes, and for abolishing all taxation of real and personal property for a State revenue. The convention received the proposition with much favor and a standing committee was appointed to agitate the subject.

Another matter which warmed the convention was the mention of the effort which is being made to render the produce trade of this city more American in spirit and to rule out the small fry monopolists and boycotters who prey upon it. The following resolution was enthusiastically adopted:

"Resolved, That in view of the disclosures made regarding the boycotting of dealers by the San Francisco fruit commission men, this convention demands of the Governor and Board of State Harbor Commissioners such rigid enforcement of the Woodward act as shall insure to every producer of perishable products who desires it, the opportunity to freely sell his produce on the State property in San Francisco, unhampered by any boycott to which others making use of the State property are parties.

This endorsement of the effort in this city will have a good effect. Already the Harbor Commissioners have revoked the permits heretofore granted to four of the largest commission houses in this city and ordered the Chief Wharfinger to forbid any one of the firms from either buying or selling on the State wharves. The Commissioners have announced that if other commission firms are charged with discrimination and fail to make a satisfactory answer their permits will also be revoked. It is alleged that the wholesalers have refused to sell produce to those who are not members of the Retail Fruit Dealers' Association. The only way to reach the matter is to see to it that such wholesalers do not use the State property to promote such business.

Spot wheat is unchanged. Speculative wheat was firm most of the week, but closes weak in sympathy with Chicago. One part cargo of wheat, one whole and two part cargoes of barley have gone out. Barley is unchanged, but looking upward. Corn is weak and slightly lower. Beans are firm, in fair demand, and some kinds notably higher; pink beans are leading. Bran is unchanged, and so is hay. Beef is higher; mutton steady, while hogs are firm with a good outlook and light receipts. Butter is weak and said to be selling under, while cheese is unchanged and weak. Eggs are still scarce and high. Poultry is in excess and has to be held over. Seven cars of Eastern have come since our last report. Potatoes are quiet and unchanged. Onions are slow all except for the finest. Fresh vegetables in variety are coming from southern California and rhubarb from Alameda county. Apples are holding up well if fine, otherwise they drag. Oranges are plentiful but many immature. Lemons are very quiet. Shipments of small prunes are still being made to Europe; one sailing vessel took 1,390,000 pounds and a steamer took 190,000 pounds, and 42,000 pounds other dried fruit, mostly pears. Almonds are steady and walnuts scarce and high. Honey is slow for medium which is in large supply. There is not much fancy nor dark—the latter is in some demand by bakers. Hops are steady for choice and weak for lower grades. Wool is inactive.

## QUERIES AND REPLIES.

### Tough Grass for Packing Purposes.

TO THE EDITOR:—We want to sow some kind of long wiry grass that we can use for packing purposes and not for fodder. We have been told that the Australian rye grass would be suitable for this purpose. Our land is in the foothills, a red gravelly soil, with hardpan about 3 feet from the surface. We understand that four or five sacks of wheat or barley have been raised to the acre on this land.—READER, San Francisco.

Australian rye grass is, as you imagine, perhaps the best suited of the various grasses introduced for pasturage purposes in drouth resisting, etc., and also if allowed to get a little matured before cutting will give you long wiry stems. It seems to us, however, that a crop of rye would answer the same purpose and produce you more material for a good deal less cost. It certainly might be desirable to put in a little piece of rye just to test that matter, and then cut it soon enough so that it can be dried without becoming too brittle. Although Australian rye grass will stand a good deal of drouth and still maintain its life during the summer, it is very doubtful whether it would do this without irrigation on the piece of land which you describe. Common rye grass is so cheap that you would not need to undertake perennial rooting, but could sow it fresh each year. We are led to this suggestion by what we know of the character of the stem of rye cut rather late and from the very fact that it is never grown for hay because of the toughness of the stem.

### The Product of Alfalfa Hay.

TO THE EDITOR:—What is the annual aggregate yield of the State in alfalfa, and what the average price per ton of cured alfalfa when marketed? We have been unable to ascertain this with any certainty, as all statistics we have seen report alfalfa returns under the general heading of Hay, which, of course, includes wheat, barley and oats cut as hay—which covers the alfalfa question with a cloud of uncertainty.—EXQUIRER, Chicago.

The best that we can do in the way of a separate estimate of the amount of alfalfa hay produced in California is to cite you the census figures for the year 1899, which mention 298,898 acres in alfalfa yielding 838,730 tons. The total hay produced in California that year is placed at 3,035,982 tons. This would make the alfalfa about one-quarter of the total production, which is as near an estimate as could be made. The value of the total hay product is \$19,436,398, which would be a little over \$6 per ton. This, of course, is an estimate of the value of hay on the farm and not when delivered in the market. It is too low an estimate. Judging by the experience of recent years, alfalfa should not be rated at less than \$6 on the farm, and the finer grain hays usually sell for \$2 to \$3 a ton higher. Alfalfa in the San Francisco market need not be rated lower than \$9 a ton and will run considerably higher.

### Gypsum for Alkali.

TO THE EDITOR:—When and how can I apply gypsum to vineyard land which shows spots of alkali? Is there any danger of putting it close to the vines, and should it be cultivated as soon as put on?—T. I., Fresno county.

There is no advantage in using gypsum unless you have "black alkali" to deal with. The office of gypsum is to transform black alkali into the less corrosive substance commonly called "white alkali." You can make the application at once to the surface and trust to the rains to dissolve as much as possible and carry it down into the soil. This is of advantage where you do not have excess of rainfall, and therefore are not likely to lose the gypsum solution by surface run-off. It can do no harm to the vines—in fact, it is desirable to make the applications close to the vines, if they are young, so as to prevent the destruction of their roots by the black alkali which is left near the surface, as the soil moisture evaporates.

### Cabbage Planting.

TO THE EDITOR:—Will you please settle a point of argument among a few growers in this vicinity relative to cabbage? We grow the Winningstedt variety and are planting at the present time. Now, when is the proper time to transplant from the bed to the field and what should be the size and age and



proper condition to prevail? —GROWER, Orange county.

In answer to your question about transplanting, it can be said that the time of planting out is different in different parts of the State, and also different according to whether one wants early or late crops in the same locality. Cabbage seed, then, is planted in the seed bed all the way from September to January or even later. In your part of the State it is customary to grow the crop later in the season than in the district about San Francisco, where the cabbages are chiefly grown during the fall months and shipped in the winter and early spring. As for the size of the plant at transplanting, there is also difference in views and practice of different growers and the probability is there is no exact measurement which can be given. Our own observation is that a plant with a good stocky stem of about 1/4-inch in diameter recovers more quickly from transplanting and is, on the whole, about the best size under ordinary conditions.

Tomato Growing.

To THE EDITOR:—I wish to raise tomatoes, about fifty acres, in Dixon, Solano county. It was a grain field until last summer. I think this land is clay soil, and I can irrigate enough of it by the electric engine pumps. I know the conditions are good for raising tomatoes by your "California Vegetables," but I have never seen any tomato ground near this town. I know one tomato field in Tremont, about 6 miles from my land. That ground is lower than mine and is sandy soil. I may have to use a different system of irrigating, planting, etc., as that grower could not get good crops, and was compelled to leave out a good many large green tomatoes on the ground. I think the cause is mistakes of planting season, replanting on the open ground and irrigating system. He said he replanted last April, and planted so near into the bed of furrow that the water washed the stems of tomatoes whenever he irrigated the ground. When must I sow seed in the hot house to harvest most of the product next August and September? Can I irrigate the land enough by the small furrow system, and then how many feet wide must the ridge and furrow be made? How many feet apart must I plant tomatoes, and when shall I commence irrigation, and how many times in one week during the hot season?—GROWER, Dixon.

The district about Dixon would be good for a canning crop of tomatoes and to ripen in. The plants should be set out as soon as they can be safely; that is, as soon as the danger from frost is over. The plants should be started in a hot house in February in order to be of good size and thrifty for planting out. If your land is pretty heavy, and you have a good, large rainfall, you will probably need very little irrigation. The ground should be deeply plowed now and cross-plowed in the spring, turning in all the weeds that grow, harrowing after cross-plowing to retain moisture, the tomato plants set out about 6 feet apart each way, and the ground kept thoroughly well cultivated after planting, because if you have to deal with a clay soil it will bake hard and the plants suffer for lack of moisture. The application of irrigation water must depend upon the way the plants grow. One has to be careful not to irrigate too much, or he will get very large plants and little fruit, and the fruit will come too late. A plant which grows less rapidly is very apt to bear well. Under ordinary conditions, if your land is well cultivated, an irrigation once in two weeks ought to be sufficient. It is, of course, much easier to irrigate and cultivate plants which are growing upon a sandy loam. However, plants on a clay soil, well cultivated, have less need of irrigation.

Alfalfa Bacteria.

To THE EDITOR:—We have a 240-acre tract in the Imperial country, in San Diego county, Cal., and desire to get it into alfalfa. There is not a good field of alfalfa in that district. We have 11 acres started and will plant more in early spring. I believe the soil of the Colorado desert to be deficient in nitrogen and am desirous of procuring some earth inoculated with alfalfa bacteria to inoculate our young alfalfa. If we can get this 11 acres thoroughly inoculated we will have a source of supply for our district, and if we succeed in inoculating this field so as to get a first-class stand, we will use the method on a much larger acreage and in planting for others. Can you advise us where we can get the inoculated earth?—READER, Chicago.

California experience generally is that alfalfa takes readily and grows exceedingly well without the introduction of bacteria. With soil free from alkali and moisture in sufficient amount, there is usually a good result without recourse to inoculation. This is the

experience of growers in all parts of the State. Of course, there may be districts where this is not true, and where the enterprise which you have in mind would yield very important results. The best way to secure the inoculation earth which is sure to contain the approved kind of bacterium is to correspond with the United States Department of Agriculture, Washington, D. C. They are making special efforts along this line at the present time, judging from the report of the Secretary of Agriculture made at the opening of Congress last week.

The Lemon Industry.

To THE EDITOR:—Will you kindly let us know something of the most modern conditions regarding lemon culture? We have understood that the growing of lemons in California has recently taken on a far more favorable aspect than formerly ruled, owing especially to improved methods of handling, curing and storing the fall and early winter crop. We should much like to know from what source we might procure a practical treatise or article giving directions for such treatment? We have understood that the whole question has been greatly simplified; also that the growers in Sicily practically forward their lemons without any previous process of curing whatever. For the latest up-to-date information of a full nature on this question we should be very grateful.—SUBSCRIBERS, Chicago.

As you are probably among the recent accessions to our subscription list you are not aware that the subjects you mention have already been very freely and fully discussed in our columns. The latest thing in lemon curing consists in using a large open shed with boxes piled in carload lots, each lot covered with a rectangular or box-shaped canvas cover to be raised or lowered, according to circumstances, from the shed timbers above. This is the arrangement of Mr. C. C. Teague, Santa Paula, Ventura county, and is being introduced by other growers also. The canvas cover seems to give all the protection that is needed, and at same time by raising or lowering makes it easy to admit more or less outside air as the condition of the fruit may require. The present prospect is that this simple arrangement will take the place of many elaborate curing houses that have been previously constructed. Mr. Teague has read essays at our Fruit Growers' Conventions and Farmers' Institutes concerning this method of curing and these descriptions have appeared in our columns. You will find this quite in detail in the PACIFIC RURAL PRESS of May 23, 1903.

On the whole it must be said that the outlook for lemons is rather better because the acreage has been considerably reduced. In good orange districts many lemon trees have been budded over to the orange and the culture of lemons is being largely restricted to the immediate coast in southern California, where conditions are rather more favorable to the lemon. There is, however, some acreage of lemons in the interior, central and northern parts of the State which are promising, although the fruit has not yet reached the market in sufficient quantities to fully demonstrate results.

Pecans in Sacramento River District.

To THE EDITOR:—A friend of mine suggested my setting out a lot of pecan trees, and has ventured to give me the nuts for that purpose. He claims that it is immensely profitable in his native State—Mississippi—and thinks they would do well on our reclaimed tule lands. Will you kindly tell me your opinion about this? Is there any literature on the subject? Where can I get it? Were pecan trees ever grown on this coast, and if so, was it a commercial success? How long does it take them to bear fruit? Do they require much care, in the line of pruning, spraying, etc.? What kind of soil does it require? Do you think it would do well on higher ground at an elevation of 5 or 6 feet of the ground water?—GROWER, Sacramento.

Pecan nuts will do well on the higher land which you mention. This nut is doing better in the interior localities, where there is some frost early in the season, than in coast district where there does not seem to be frost enough to check the growth and cause the nuts to ripen properly. It cannot be said that the pecan is a commercial success as yet in California, nor is there any large acreage of the trees. They are usually grown as forest trees and do not require pruning or spraying, so far as we know. The trees are grown quite readily from the seed just as walnut trees are. You can get a publication on the pecan nut by addressing the Pomologist, U. S. Department of Agriculture, Washington, D. C.

Peach Pits For Planting.

To THE EDITOR:—Please tell me if mixed peach pits taken from the cutting shed would be suitable for growing trees to be budded, or should I have some particular variety?—SUBSCRIBER, Fowler.

Such pits as you describe are very largely used, and growers do not pay as much attention to selecting pits as they should. Undoubtedly, you will get more uniformly good and vigorous stocks by using pits of a single strong-growing variety, and the best yellow-fleshed peaches are believed to excel in this particular.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending December 7, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool, foggy weather prevailed during the week. Frosts occurred frequently, but caused no damage. The soil is in good condition and rapid progress is being made in plowing and seeding. Early sown wheat and oats are making good growth and appear strong and thrifty. Grass is growing rapidly and green food is becoming plentiful. Stock are in fair condition and rapidly improving. Orchards and vineyards are looking well, and pruning is in progress in some places. Orange picking and shipping continue; the yield and quality are reported very good. Reports from the mountain districts indicate that the snowfall this season has been comparatively light.

Coast and Bay Sections.

The weather during the week was generally clear and cool, but with heavy fogs in some sections. Light to heavy frosts occurred frequently and temperatures as low as 32° were reported in some places, but no damage was done. Strong northerly winds toward the close of the week dried the soil to some extent. The ground is generally in good condition and farm work is progressing rapidly in all sections. Early sown grain is looking well and making good growth. Grass is growing rapidly in most places, but is somewhat backward in portions of the southern districts where the rainfall has been light. Cattle are in good condition. Shipments of celery, tomatoes, peppers and late raspberries are being made from Santa Clara county. Tree and vine pruning are progressing.

San Joaquin Valley.

The weather during the past week was cold and foggy. Severe frosts occurred on several dates, but caused no injury. The southern portion of the valley needs rain badly, and farming operations in that section are practically at a standstill, owing to the soil being too dry to plow. In the northern portion the late rains put the ground in excellent condition, and plowing and seeding are progressing rapidly. Pruning orchards and vineyards is progressing. Feed is becoming scarce in the southern section, and stock are thin but healthy; in the northern end of the valley green feed has made good growth. Picking and shipping oranges continue; the crop is good and of excellent quality.

Southern California.

Clear weather prevailed most of the week, with cool nights and heavy frosts in some places. At Santa Maria the temperature fell to 28° on the 5th. Rain fell in San Diego and vicinity Sunday night. High northerly winds dried the soil and caused some damage to orchards and other property. Fires in the mountains destroyed a large amount of valuable timber. Oranges are ready for shipment in several places, and harvest is progressing in Orange and San Bernardino counties; the crop has probably been injured to some extent by the severe winds, but no positive information has been received. The soil is very dry and rain is badly needed. But little plowing has been done and feed is scarce on the ranges. The late potato crop is light.

LOS ANGELES SUMMARY.—A cool week with occasional frost; quite heavy in places; tomatoes and other tender vegetation nipped. A heavy wind storm beginning Thursday night continued Friday; some damage to oranges, but extent not yet reported.

EUREKA SUMMARY.—Weather favorable and soil in good condition. Many farmers plowing and sowing fall grain. Grass is growing rapidly. Some potatoes remain in the ground. Large shipments of apples.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 9, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka.....	T	14.34	18.42	12.06	62	38
Red Bluff.....	.00	8.72	11.49	6.59	70	32
Sacramento.....	.00	3.52	4.02	4.60	60	38
San Francisco.....	.00	4.42	3.97	6.48	64	44
Fresno.....	.00	.64	2.67	2.14	62	36
Independence.....	.00	.42	.79	1.23	66	26
San Luis Obispo.....	.00	.44	3.52	4.89	78	32
Los Angeles.....	T	.43	2.47	3.26	74	40
San Diego.....	.33	.40	2.51	1.54	76	48
Yuma.....	T	.66	3.97	1.32	80	48



## AGRICULTURAL SCIENCE.

### Chemistry of Soils and Crop Production.

NUMBER 11.—CONCLUDED.

By PROF. E. W. HILDARD, Director of the University California Experiment Station, at the meeting of the Association of American Agricultural Colleges and Experiment Stations held last week at Washington, D. C.

**THE BEHAVIOR OF FERTILIZERS.**—Not the least remarkable part of the bulletin is that in which Whitney discusses the use and action of fertilizers. He does admit that "there is no question that in certain cases, and in many cases, the application of commercial fertilizers is beneficial to the crop." But he calmly brushes aside, as so many cobwebs, the enormously cumulative evidence of all the practical experience of three quarters of a century in the use of commercial fertilizers, as well as the carefully guarded culture experiments made during that time by numerous scientific workers; and announces the truism that climatic and seasonal conditions may neutralize the beneficial effects of any and all fertilizers used. This has been long and often said, experienced and foreseen; every one knows that deficiency of moisture, or heat or imperfect cultivation, as well as the improper manner of application of fertilizers, may render them wholly ineffective. We have also long known that soluble fertilizers soon become insoluble (but not necessarily unavailable) in the soil, in a manner fairly well understood, and that hence they can not long influence the watery soil solution to which Whitney pins his faith. But since the same conditions influence the unfertilized soils to even a greater degree, manifestly because of the slower and less vigorous development of the plants, it is not easy to see what special corroboration Whitney's hypothesis can derive therefrom. He calmly discards as having been made under "abnormal conditions," the elaborate and conclusive experiments made by the best observers in pot culture, in which the physical factors were so controlled as to eliminate them from the problem of the action of special fertilizers; and we are told that "very little effect is obtained in field culture in attempts to increase the value of crops showing inferior growth, by the application of fertilizers." A trip through the malodorous turnip fields of the Low Countries, or of Switzerland in autumn would convince even the Bureau that the thrifty inhabitants know that when a fertilizer is made to reach the feeding roots its action is invariably most strikingly beneficial. That a top dressing of insoluble fertilizers on a growing crop can do but little good needs no discussion; and it is but too true that a great deal of the fertilizers used in the arid region remains wholly ineffective for a long time because of the deep range of the feeding roots, and the shallow application of insoluble fertilizers.

**THE SOIL ACTION.** In the classic water-culture experiments of Birner and Lucanus, quoted in the bulletin (p. 15), the well water was supplied continuously and in indefinite amounts. It is thus no wonder that the results were so good, for at no time was there a lack of plant food supply, nor would such changes as would injuriously affect the growth occur. But for these frequent renewals of the water the result would doubtless have been very different, if only as a consequence of changes in the reaction of the solution. It is singular that this important point is not even casually mentioned in the bulletin with respect to the soil solutions. The deleterious effects of soil acidity upon most culture plants, long known in general, has been well and thoroughly investigated by H. J. Wheeler.\* Yet neither in the tables nor in the text of this bulletin do we find any evidence that this point has had any attention with respect to its possible bearings on the differences in production on what are held by the Bureau to be identical soil areas. We are not informed whether the large amounts of lime present in some of these solutions were sulphate or carbonate; yet the importance of this difference is enormous, as is well shown by the contrast between the natural vegetation as well as the cultural value of gypsons as against limestone lands, which are everywhere among the most productive. An excellent illustration of what this omission may mean exists on the Gulf coast of Mississippi, where (as I have shown in the "Report on Cotton Culture," Tenth Census, Vol. 5, p. 69) the soil of the infertile "sand hammocks" differs from the highly and lastingly productive soil of the "shell hammocks" almost alone in the proportion of lime (calcic carbonate) and phosphoric acid present, and in having an acid reaction; the percentages of plant food being very low in both, and both equally of great depth. This observation, together with others, led me very early (1860) to the conclusion that mere percentages of plant food were not in all cases proper criteria of soil fertility; and also to the enunciation of the statement which I have repeated many times both in my teaching and publications: to wit: "While all fresh soils of high plant food percentages are highly productive under all but very extreme physical conditions, the reverse is by no means true; since soils with low percentages may be highly productive if the relative proportions of the several ingredients be good, and the soil mass deep." I have for some years carried on an investigation to determine the limits of

dilution within which plants will do equally well in soils of high fertility (and plant food percentages) when these are diluted with quartz sand. While not yet completed, this investigation has already shown that a rich adobe (clay) soil, as well as an equally rich sandy soil, diluted to an extent of four to one, show equally good growth, but that when in these soils the dilution reaches five to one, development is quite slow, and in a short season would mean a crop failure. The moisture content was in all these cases maintained at one-half the maximum water capacity of each diluted soil. Photographs show clearly that here the roots made up by their extension for the lack of concentration of the food supply; but at the dilution of one to five they were unable to make up that deficiency, at least within a reasonable time, even though the same total amount of food ingredients was always present in the increased bulk. Other things being equal, it is the proportion, then, between the several soil ingredients, quite as much as the absolute quantity at hand, that determines production. Incidentally, this experiment shows the wide variation of physical composition (from a soil containing 35% of colloidal clay to one with only 8.75%, and in the sandy soil from 7.6% to 1.9%) within which plants will do equally well provided the plant food ingredients are rightly proportioned; and provided also that a proportionally large soil mass is available to each plant.

In the foregoing discussion, only the salient points of the bulletin in question have been taken up, and their most obvious weaknesses briefly considered. To do more would involve the writing of a paper as long as the bulletin itself; and it is to be hoped that the matter will be taken up by others, also. Thus, for instance, the Rothamstead Station might have something to say regarding the singular interpretation here put upon the splendid work of Lawes and Gilbert.

In conclusion, it seems to the writer that the verdict upon the main theses put forward so confidently in this paper must be an emphatic "Not proven!" Berkeley, Cal., Nov. 11, 1903. E. W. HILDARD.

## THE DAIRY.

### Large Cows, Well Fed, Pay Best.

Mr. Robert Ashburner of Lakeville, Sonoma county, who gave his ideas about Shorthorn colors in our last issue, writes interestingly in the Dairy and Produce Review about the kind of cows that pay:

And so it appears that the advocates of special dairy breeds and the so-called "dairy type" of cows are surprised at the results obtained through some experiments made at the Wisconsin Experiment Station with different breeds of cattle in regard to their profitableness in the dairy. An experiment of that kind conducted for a period of one or two years only I consider to be of little if any value, but as the Wisconsin experiments—referred to by you—covered a period of four years with a herd of thirty-eight cows, they may be considered of real value to the practical dairyman and farmer, for they, as far as they go, confirm the fact that the larger class of cows are the most economical producers in the dairy, regardless of type or breed, and even the larger breeds of dairy cattle prove to be the superiors of the smaller breeds. Remember that it was the heaviest Jersey cow—weighing about 1200 pounds, if I remember rightly—that was the only cow that made as much as 3 pounds of butter a day in the test at the Columbian Exposition, no doubt much to the surprise of some of those theorists who advocate the use of small-sized cows as being the most economical producers of milk and butter. And for what reason?

**NOTIONS OF COWS.**—One of the main reasons, I believe, their faith in the fallacious theory that the right way to feed cows is at so much food per hundredweight of cow. That I never did believe in myself. But, then, I have believed mainly in facts as proved by my own experience in feeding cows, an experience covering a goodly number of years, but not conducted with as much regard to the teachings of scientific principles as to the likes and dislikes of each animal, and as to the kind and quantity of food they would consume and like best, for if a cow does not eat her food with a relish and good appetite she does not do as well as she ought to. Some cows have fancies and don't like everything or anything that comes in their way; neither do they like to have their food put before them in a slovenly manner. Such cows require a little humoring or they don't do as well as they otherwise would. This may seem a bit fanciful on my part, but, then, I was brought up that way and perhaps I cannot help it. When I was a small boy one of my jobs was to look over the feed mangers and see if any of the cows had not cleaned up their cut feed, and, if not, was told to take a little oil cake, ground oats, or whatever might be tempting to the appetite, and mix it with that which was left, and thus would each cow be induced to eat her full feed.

Now, in regard to feeding cows so much per hundred pounds of their live weight, I would ask those who believe in that particular system of feeding if they can keep three cows that weigh 800 pounds

each, and give say 100 pounds of milk a day, on the same quantity of food that two 1200-pound cows, giving the same quantity of milk—100 pounds a day—can be kept on and all keep in equally good condition? If any one thinks he can, by all means let us have the facts as proved by actual test.

**HOME OF THE DUAL PURPOSE COW.**—I do not want it to be understood that I think heavy cows are best for all kinds of conditions and land. Rough, hilly or mountainous pasture is no place for them. In such land the smaller breeds of cattle will do better than the large, heavy breeds, but the latter will be found most profitable in every respect where the land is good enough to grow good cattle and on farms where plenty of hay and grain are grown in conjunction with a moderate-sized dairy, with calf rearing for either beef or dairy purposes. Such is the home of the dual purpose cow, in which she will delight to dwell and make good returns for food consumed. When cattle have been bred on the same farm for several generations they will gradually have become adapted in size and growth to what the land and feed will make them. If neither is good, neither will the cattle be good.

**NOT THE NO PURPOSE COW.**—I have mentioned the dual purpose cow, by which I do not mean that no purpose cow which is so often called by that name, thus giving a bad character to the real article, which is in reality very scarce indeed. How many herds are there on the coast that have been steadily bred for a number of generations with a view to the production of that class of cows bred so long that they will breed true to the type and general characteristics aimed at by the breeder? The breeders of such herds can probably be counted on the fingers of one hand. It is an indisputable fact that the majority of farmers and dairymen have so changed about from the use of bulls of one breed to that of another, or more often to bulls of no known breeding, that the general run of the cattle of the country are of all kinds and mixtures, save one.

**BALANCED RATIONS.**—Now, as to the balanced ration theory, which you say the experiments are proving to be false, though favorite hobbies with many. I have never believed in it much. As I have said above, by humoring the cow as to her likes and dislikes I prefer to balance the cow's appetite, which I think is far better practice. Some will wonder, and ask, How do you keep your cows so fat while they are giving such large quantities of milk? To which I can only answer that they at all times get plenty of good, wholesome food. I like to have them in good condition when they calve. They give more and better milk. I, if I may use the term, feed more than a balanced ration—that is, I feed a larger proportion of flesh-forming food than is called for in the production of milk alone. As milk is in itself largely an albuminous food, I have found that in order to keep up the condition of cows giving milk the flesh-forming foods must be used more freely than is necessary for milk alone, and regardless of any gain in flesh. Therefore, to cows giving the most milk I feed extra oil cake, according to the quantity of milk a cow is giving, once and above the ordinary mixture in use for the whole herd. The best milkers, as a rule, are the heaviest, the fattest and the biggest cows in the herd. They carry their "dairy form" on their straight and well-filled hind quarters, broad backs and round ribs, with well-fleshed thighs and flanks, all desirable points in the shape of a cow kept for any purpose, but which, some would have us believe, can not or should not exist in a cow that is a heavy milker. But they can and do exist in the best type of the genuine dual purpose cow.

## FORESTRY.

### Plant Forests for the Bees.

Professor A. J. Cook of Claremont, Los Angeles county, writes to the American Bee Journal concerning tree planting, with incidental reference to bee pasturage. We take the following, which especially relates to this State:

California is as much interested in this matter of tree planting as any State in the Union. Trees should not only be planted along the roadside and city streets, but, if our people are wise, great blocks of trees will be set out on the areas not otherwise occupied; and certainly more and more attention will be given to the reforestation of our mountains, where, through inexcusable carelessness, great areas of timbers have been burned to the ground. I fully believe that could our people be made to realize the importance of this matter of a greatly increased forest area in our State, we should have a general movement all along the line towards wise and extensive planting of trees.

Among the trees most desirable in California stands pre-eminent the various species of eucalyptus. There are said to be 150 species of this genus of tree. They come from Australia, a region very similar to California. In such arid regions trees must become deep-rooted to live at all, and because of this deep rooting they will of necessity grow very rapidly, and will be fortified against the drought that is sure to

\*Reports of the Rhode Island Expt. Sta.



come with each year. For safety's sake, then, no tree should take precedence in such regions as California, Arizona and Nevada, of these fine, rapid-growing eucalypts. I am happy to say that our people are realizing the truth of this statement, as is shown by the rapid increase in the planting of these trees. The trees are not only attractive in form, foliage and blossom, but they are, I think, without exception, valuable for honey.

There is an interesting fact about the blossoming of these trees. Of course, in their native Australia, they blossom in the spring, which is our autumn. As they are transplanted to our State, on the opposite side of the equator, they are much perplexed. It is a struggle which shall most influence—their old habit and heredity, or their new environment. Thus, their time of bloom is very varied, and the time of bloom will change with the years. At present we can find eucalyptus in bloom during several months of the year. It is wise, then, in selecting eucalypts for tree planting to plant a variety, that we may extend the time of bloom as much as may be. It is also wise, at the same time, to secure such trees as are valuable for timber, posts, piles, etc.; such trees as grow rapidly and will stand greatest extremes of heat and cold, and also trees that are desirable for beauty. I will proceed to give a few trees that are to be heartily recommended:

*Eucalyptus citriodora* is a tree that is specially commended as a honey tree. It is a profuse bloomer and very attractive to the bees. The leaves are very fragrant. It is very graceful, and thus is to be recommended for its beauty. It has the one objection of being rather impatient of frost. It kills down here at Claremont when young, but when well started seems hardy. The wood is like hickory, and thus will always have a value in the market.

*E. rostrata* is the well known red gum. It is graceful, grows rapidly and makes a fine roadside tree. It is said to be the best money getter in Australia of any of the eucalypts. It attains a height of 100 feet. It grows well under quite a variety of climate, enduring a climate of from 15° F. to 115° F. The timber is valuable for many purposes, being hard and strong. It is used in our States extensively for fuel and posts. It ranks high as a honey producer both in America and Australia. I doubt if any tree is more desirable for roadside planting in California and Arizona.

*E. rudis* is a favorite in the Fresno region. It also will stand a wider range of climate. The timber of this tree is also first class, and it stands among the best for honey.

*E. corynocalyx* is the well-known sugar gum. This reaches 100 feet, and in Australia is said to attain a diameter of 6 feet. The bark is smooth and a buffy white, though the twigs are quite red. It stands our California temperature well, and, like other trees mentioned above, resists the drouth to a surprising degree. It is more valuable for many purposes than is the common blue gum, as the timber is very durable, and lasts a long time when set up for posts. It blooms profusely, and is excellent as a honey tree.

*E. tereticornis* is very similar to the *rostrata*, and is often known as redwood. I hardly know which is the most desirable for planting, and can cheerfully recommend both.

*E. sideroxylon* is very attractive to me. It has the grace of the American elm, while the narrow leaves make it especially beautiful. It is called in Australia the "red ironbark." It stands our Claremont climate well. Its colored blossoms make it peculiarly attractive, and for this alone I should plant this tree, as also the still more beautiful and showy *E. ficifolia*, which has very showy red blossoms. The timber, while not as valuable, perhaps, as that of some others, is also much used for posts and in the arts—anywhere where strength and durability is required.

The other eucalypts that are specially valuable for honey are: *E. calophylla*, *E. hemiphloia*, *E. leucoxylon*, *E. longifolia*, *E. melliodora*, *E. pilularis* and *E. polyanthemus*. All these are worthy a trial in many parts of the warmer regions of California.

## THE VETERINARIAN.

### The Bang System for Stamping Out Tuberculosis in Cattle.

At the annual meeting of the American Association of Veterinary Science, held at Ottawa early in September, a valuable paper was read by Senator Edwards, of Rockland, Ont., giving his experience with the Bang system for the eradication of tuberculosis as practiced at his farm.

The question arises—can tuberculosis, one of the most constant diseases present in animals, be eradicated? My answer is, "Yes," most emphatically. It can be done, and once eradicated, by reasonable care healthy herds and flocks in this respect can be maintained; and the system we recommend is the Bang system, which has been rigidly practiced on our farm since the year 1898. In the spring of that year, intending to ship some young bulls to Wisconsin, we asked our Dominion veterinary authorities to test them, and to our surprise and regret it was

found that all responded to the tuberculin test. This was the first knowledge of the existence of the disease in our herd. For a few days we were undecided what course to pursue, but on consultation with Hon. Sydney Fisher, Minister of Agriculture, who recommended testing the whole herd, and who further urged upon me the advisability of adopting the Bang system for the eradication of the disease, and on our consenting, he at once placed us in communication with Dr. McEachern, then Chief Dominion Veterinary Inspector, who had the entire herd tested and gave us full information and instructions as to the Bang system. The greater part of the herd responded to the test and a separation was at once made of the healthy from the diseased animals. The decision was to weed out and kill all but animals of desired pedigree and individuality, and the slaughtering took place under veterinary inspection. Of the fifty to sixty animals slaughtered, only three proved unfit for human food, but in all, traces of the disease in a more or less degree were found, but in most cases, very trifling traces of it. The stables formerly occupied by the herd were most thoroughly disinfected for the reception of the healthy animals and entirely new premises were erected for the diseased animals we retained in our herd, and in like manner the diseased animals have been kept in separate and distinct pastures from the healthy ones since that time and have never mingled in any way.

**RAISING THE CALVES.**—In the inception of our experiments, we sterilized the milk from the diseased cows as directed by Dr. McEachern, and fed the calves from the pail. This plan we found successful in so far as raising sound calves was concerned, but it is a somewhat troublesome one, and further, we lost a few calves as we believe from the fact that they were so fed at once without first taking the mother's milk in the natural way. This plan, while successful, we have discarded entirely, and we have adopted the plan of raising the calves on nurse cows, allowing the calf always to suck the mother once before making the change. This plan we have found most successful in every particular, and in the practice of either of these plans described, we can vouch for it from our experience that healthy calves can be most successfully raised from diseased dams, or diseased sires and dams, and if all is carefully carried out, the percentage of diseased calves raised will be very small indeed, so small that it need hardly be considered. In our experiments everything has been entirely satisfactory to us, and we strongly recommend the practice to our brother breeders, many of whom we are sorry to say have, up to this time, resisted the advice in this respect, of our veterinary authorities, both in the United States and Canada, and the subject has been a most controversial one. We can only say for our part that after a very considerable experience we are firm believers in the Bang system, and we are believers in the tuberculin test as the only present means, so far as we are aware, of ascertaining the existence of the disease. The only failure, so far as we have knowledge of, is in cases where the disease is in such an advanced stage that reaction does not take place. In a well conducted herd such cases will be few and far between.

Further, we have experienced none of the unfavorable results that are put up by those opposing the test. In no case have we known, in the many hundreds of animals we have tested, of an injury to the animal; neither have we experienced any trouble in abortion in cows tested and we have had them tested in all stages of pregnancy.

We are firm believers in the tuberculin test, as we have described, and we are also firm believers in the Bang system, and until these are improved upon—if they can be improved upon—we shall practice both in the management of our herd. No matter what the practice and requirements of our government authorities may be, we on our part shall not relax our efforts in the direction I have stated until all our herds are absolutely free from disease, and until better means are known, we shall always use the tuberculin test to ascertain the conditions of the health of our herds.

**EDUCATION AND UNITED EFFORT NEEDED.**—Having given our practice on the farm, I may now be permitted, perhaps, to make a few general remarks. The discovery of the extent of the disease in the herds of various countries a few years ago caused such a commotion that most rigid enactments were passed by several legislative bodies; extreme conditions were imposed, doing, unfortunately, in our opinion, a great deal of harm, arousing the antagonism of breeders and stockmen. Much of this legislation has been rescinded and more reasonable measures are now adopted, as a result of a greater knowledge of the subject. Mistakes, if there have been mistakes, were not wilful but well intended on the part of the authorities of each country, but we submit that if the disease is to be eradicated from any country it must be through a campaign of education and united effort on the part of the breeders of the country. The exclusion of importations will never help to eradicate the disease just so long as the disease exists in the herds of the importing countries and our veterinary authorities will do well to show the simplicity with which the disease may be eradicated, rather than impose unnecessary conditions.

Apart from the test and the application of the

Bang system, cleanly and sanitary conditions, good ventilation and plenty of sunlight, and as much outdoor life as possible are the requisites. To the beginner in stock breeding we would advise great care in seeing to it that he begins his operations with animals free from disease, and that he attends well to his ventilation and sanitary conditions, and if at any time he buys to strengthen his herd to see to it to a certainty that he does not buy disease with the animal.

To the breeder, small or large, who discovers the disease to exist generally in his herd, if the animals are of inferior pedigree and individuality, we recommend turning off to a butcher, to be killed under veterinary inspection, all animals that respond to the test, and begin anew, but in no case would we recommend the slaughtering of valuable animals where they are still in good breeding form and vigorous appearance, but we advise the system of separation we have described in this paper. The same full measure of separation may not always be possible, but the best that can be done should be done in each instance and under no circumstances neglect the matters of ventilation, good sanitary conditions, plenty of sunlight, and as much open air life as possible. I am fully convinced of the reasonable possibility of the eradication of tuberculosis from our herds and of the maintenance of sound herds, and my earnest hope is that our breeders may at no distant day be so educated in the direction I have endeavored to describe that they will put into practice the only present known means of ridding their herds of a disease which in the past has been so destructive in its consequences.

## THE POULTRY YARD.

### The Practical Man Comments on the Poultry Business.

A correspondent of the Santa Rosa Republican comments on the poultry business from a point of view not usually taken, and his remarks are, for that reason, edifying.

**NOR SO EASY.**—Poultry keeping may seem to some of my readers who have never tried it a very simple and easy way of gaining a livelihood. If one has other things to attend to, occasionally, it is very easy to say to Mrs. Farmer, "I must be away all day today, and I put you in charge." All Mrs. Farmer has to do is to put out the food as directed and gather the eggs before night so that pulcats or other night prowlers will not get them. Perhaps it may not seem to be much more trouble to keep 500 chickens than it is to keep fifty. Those who have tried it will tell you that there is a great deal more work and considerable more risk.

Before going into some of the details of this branch of farming, I would like to offer something by way of apology. So much has been written about the raising of poultry that it would seem that there was really nothing new on the subject. Yet if one takes time to compare the statements of prominent poultry keepers he will frequently find contradictions that will be hard to account for. Maybe the explanation for this would be that the cases were not precisely similar. In this, as in other branches of farming, even experts are liable to error. Progress, too, is constantly being made and those who would succeed will have more and more to strive to master the intricacies of the business. Book study is very well in its way, but practical experience is essentially necessary to success in this line of business.

**LOSSES FROM POOR WORK.**—As year after year passes the demand for fresh eggs and fine poultry increases. Grocery houses in the metropolis tell the farmers to send down their fresh ranch eggs, very tempting prices being offered for them. Merchants in that line have asked me why farmers did not keep more poultry and seemed to think I was joking when I told them a great many of them did not know how. Of course I meant profitably. My belief is that poultry keeping is neither a simple nor an easy way of making a living, but to one who is gifted with a fair amount of intelligence and a proper degree of pluck, success is about as easy of attainment as it would be in any other business. Farmers with good land very likely do not have time to care for a large number of fowls as they know they should be cared for; and there would not be enough profit in a small flock to make the keeping of it sufficiently remunerative. The owner of a good tract of farming land has his time pretty well occupied and generally keeps from poultry raising on a large scale unless he has others besides hired hands to rely upon for help. A big slice of a farmer's income could be taken to make up the deficiency of a poorly conducted poultry yard.

**THE HILL LANDS.**—Now, let me say a few words to those who contemplate buying sites and starting in the poultry raising business. The ideal sites for poultry raising, in my opinion, are not to be found on the deep valley land, but on the gentle slopes of the foothills. Valley land should be worth at least \$100 per acre, and to put capital in such—every foot of which should be cultivated—for poultry yards would be wasteful extravagance. In the hills the land is



worth about one-third as much and a great deal of it is good vineyard land also. These two—poultry and grapes—are a good combination if properly conducted.

Then I think the fowls are healthier and thrive better on the quickly drained slopes. The most dreaded of poultry diseases, roup, I have been told, is seldom found in yards in the hills, and when instances have occurred the sufferers in most cases were those brought in from the valley and taken into the hill yards for breeding purposes.

**MATTERS OF POLICY.**—Before starting in this occupation one should, of course, have formed plans as to which branch of the business he had better take up—the raising of fowls for the market or the keeping of one of the smaller egg-producing varieties. Both branches may be chosen, but there will be more work, and two markets to keep track of instead of one. Our beautiful valley is becoming the favorite location for summer homes of city residents, and there should be quite a large demand, in the lower portion of the county especially, for meat poultry in the summer months. The mistake has often been made of trying to raise the large sort for egg production, as well as for the market. There would not be much loss by so doing in a small flock for the home, but should the novice try it on the scale he would need to in running a poultry farm, success would not follow. As for the risk of any one trying to raise the small sorts for meat birds, the hens themselves would—by keeping on laying—soon show such what a mistake he was falling into.

**THE MATTER OF GUNS.**—I will have to admit what many who give their fowls free range claim: That the chickens are healthier; they do not require so much care, nor so much feed. But this is true of small flocks, principally. "If that is so," you may say—if you are a novice, mind you—"then I will not confine my poultry in yards." There is a drawback to this method. Hawks prey upon the flock, and if you live in the hills foxes and other wild prowlers sneak off with the hens. You may start the season with a beautiful lot, but when the time comes to begin to get returns, it would have so dwindled away that there would be no means of getting anything for the feed and labor expended. You may keep on the alert with an ever-ready shotgun, if you are in the hills, and thus save the chickens, and if you are in the valley, near neighboring farmers, one of these may carry about a shotgun instead, not for hawks, nor foxes, however, but for your hens which come to his fields and scratch out the seed. This is a case where you do not have to feed the fowls so much, you know. You may tell friend Smith they don't get much, but if he wants a good return for his land, and you don't keep your fowls off, he will have to use his gun.

## THE VINEYARD.

### Growing Emperor Grapes at Fresno.

We alluded last week to the successful sales of Emperor grapes in Eastern cities. The great interest pertaining to the subject makes it fortunate that the grower of these exceptionally fine products, Mrs. Minnie Eschelman Sherman of Fresno, recently prepared a full account of her methods and experience for the Western Empire, from which we select the portions of greatest importance from a cultural point of view:

**HOW THE EMPEROR WAS CAPTURED AND MASTERED.**—Our first knowledge of the Emperor grape was received from a neighbor, Mr. Reese. His vineyard was the first in Fresno county, and from it have sprung the older vineyards in the neighborhood. These vines grew well in the Reese vineyard and were pruned to the prevailing low stump, the same as the Muscats. While the vines fruited well, the grapes failed to mature. It was decided that the variety was worthless and the vines were about to be dug up when an Italian laborer said they were a good variety in Italy, but should be long pruned and staked or trellised. He was allowed to prune and stake some of them. They fruited well and bore the most magnificent grapes ever seen here, and a few crates sent East sold well. [It is interesting to note that this was not the beginning of such knowledge in California. Long pruning of Emperors was practiced by Mr. Blowers of Woodland as early as 1880.—Ed.]

The first vineyard we planted was seven acres, all the rooted vines that Mr. Reese had for sale. In 1893 the first grapes were shipped from the vineyard. Now, when we look back to that time and think how poorly they were packed, with the bunches cut up to fit into the small baskets, and eight of these baskets put into a double crate, where the Eastern buyer could only see the top one before purchasing, we know we were paid all they were worth when they sold at \$800 to \$1000 a car. Indeed, now, in the light of better knowledge of growing the fruit, most of that fruit was culls and should have gone to the winery.

**SOIL AND CLIMATIC FEATURES.**—The character of the soil that produces the finest-colored fruit is not decided. There are vineyards around us on what seems to be similar soil that do not produce a shipping grape. Our three vineyards are on lands that

vary in character and in drainage and in subirrigation, yet we have not been able to satisfy ourselves as to which land is the best. Atmospheric conditions, heat and humidity, seem to have much to do with the perfection of color; and absence of winds during the blooming period seem to increase the size of the bunches. Some years the land that retains the moisture is the best; other years the sloping, well-drained land produces the heavy clusters.

**METHOD OF SELECTION.**—The first planted seven-acre vineyard was watched carefully, and it was soon noticed that certain vines possessed superior bearing qualities, while others were almost barren; the fruitful vines were carefully marked with white lead paint, while the next fall the best fruited vines were marked with red paint. The cuttings for the young vineyard were made from vines marked with the two colors. The vines were counted and 33% were found to be barren, 11% had produced alternate years and 56% had produced continuously. The cuttings were put into the nursery and from them the following season the second Emperor vineyard of ten acres was planted. This land is low, red swale, running down on the east side to a six-acre depression that is nearly always filled with water; on the west side is Fancher creek. The soil varies from 18 inches to 4 feet to the hardpan, which lies in broad sheets. This land is shallower soil than the first piece planted, with the water within 10 inches of the surface during the summer time. The vineyard cultivated in the same manner as the other, consisting of ten acres, produced eighty tons of grapes. The vines were carefully marked for two seasons and showed that 22% of the vines were shy bearers, with 3% entirely barren. From this vineyard the marked cuttings were used for the third vineyard. It has not yet been marked off, as we have used the scions from the other marked vineyards for the resistant graft of the last thirty-acre vineyard planted. This third vineyard, and last one, planted on its own roots, is certainly more fruitful, as it produced nearly ten tons to the acre last season.

When this last vineyard was planted there were a few vines left over. These were planted on an acre of ground lying between the Bartlett pear orchard and one of the peach orchards. The land is supposed to be one of the poorest places on the ranch, being a coarse granite deposit from a wash of Fancher creek, made before the creek was confined in its present banks. These vines grew very slowly at first and were a year later coming into bearing than the vineyard planted at the same time. Last year they produced fancy grapes, of which 950 single crates sold in New York on Nov. 12 for \$2375.44.

**CULTURAL METHODS.**—The growing of the Emperor grape, like all good things, requires care. If the newly planted vineyard at pruning time has a long spur it is shortened in to the first firm bud and the little lateral pruned to one bud each. The other growth is pruned to a low head, say 6 to 10 inches from the ground. If there is no wood for this central leader cut it all off to the little head near the ground and next season will give a good leader. The second season pruning some of the vines will be ready to stake with the redwood stakes, 6 feet high and 2x4 inches in size. They have to be strong, 'as the vines are heavy when full of fruit. We have used 7-foot stakes but do not like them as they are too tall, making the vines' spurs high enough to catch in the horses' hames. The leader of the first season's growth is tied to the stake. Sometimes two canes are tied up. The canes are trimmed back to a strong eye and the little laterals down below are cut to one eye each. We used to leave two eyes or buds below on these upright canes, but thought this weakened the top or crown growth, so these extra buds are removed until there is a good crown formed. The particular object of the lower spurs is to furnish leaves, for the Emperor is subjected to sunburn and mildew and is the hardest grape to grow we have tried; these leaves down low furnish the sap to ripen the grapes if the upper ones perish. There seems to be no way as yet of absolutely controlling the mildew. The vineyard will look well to-day and to-morrow the mildew will show on a few vines. Everything must give way to that call for sulphur. As soon as the pruning is finished the vines are sprayed with Bordeaux mixture. When the buds are swelling each vine is dusted with sulphur, enough being used to lodge in the crevices of the spurs to give out fumes early before the leaves completely shade the crown. The cultivating is pushed, for the Emperor will grow so rapidly that long before the Muscats have elapsed hands across the rows the Emperor foliage will have covered the ground. The vineyard is watched carefully and sulphur placed under the vines if any mildew shows. If the sulphur is carelessly let fall on the grapes it will make a stain that will spoil them for shipping under our brand, for we require a fruit of surpassing beauty, for which the Eastern consumer will gladly pay \$1 a pound, to use the magnificent bunches in all their wonderful tones of color and soft bloom, as the central ornament for the dinner table. These grapes must vie in beauty with the flowers and with the lovely gowns of the women—nor must they be ashamed under the electric lights, but lay in their blushing glory among the cut glass and silver, and forget the life in the Sunny California vineyard, in thinking that they have reached social success.

As has been said, the Emperor grapes are subject to sunburn, mildew and all the other ills possible. In ten seasons we have had to cover the crown of vines six times, and find the simplest way is to use the slender branches from the eucalyptus trees, enough sprigs being pushed in to stand upright and shade the vines. As the leaves dry and still adhere to the branches, the crown bunches of grapes are ripened without burning. The red colored is the most valuable grape, and it grows on the crown formed by the first setting of the bloom, the bunches lower down coming from the second setting are the darker, while down close to the roots are the light or white ones, their lack of color being from want of sunshine. There are only a few white ones produced, however, as the lower spurs do not set fruit without there has been a cheek to the bloom of the upper part of the vine.

**FERTILIZING.**—The vineyards are fertilized every third year with bone meal, and the other two years they receive barnyard manure. I always grudge the money paid for commercial fertilizers, as it should be paid for oil cake and grain and fed to the cows, that make the butter a clear gain, as the manure pays for the feed, and skim milk and calves and pigs for care of herd. Pardon me, this is grapes, not fertility of the soil or dairying. As soon as the pruning is finished, and we begin early, the manure is hauled, spread and plowed under. The vines are not irrigated except in exceedingly dry years, preferring, if needs be, to letting the manure rot by pouring on water before spreading it on the land, subirrigation nearly always being successful when surface water increases the mildew by dampening the surface of the vineyard.

**PREPARING FOR MARKET.**—The growing of the crop is, after all, only a part, for it has to be put into a commercial shape and a market built by holding to a high standard year after year. Many trust the packing to others, but the commercial packer does all he is paid for, and does it well, yet if he puts the expense into his packing, which we do cheerfully on our own fruit, his competitors would force him out of the market. Then, after the rough handling ordinary fruit receives before it is delivered to the packing house, it is not worth the expense of a fancy pack. The hauling of grapes is enough to ruin them when carried 2 or 3 miles, because the bloom is lost, and this is the greatest beauty.

We pack by day labor, for piece work in grapes is ruinous, if they are to be carefully handled. The gathering is done in the afternoon, when the dew has dried off the fruit; the men cut them carefully from the vines to save the bloom, and lay them in one bunch deep in the raisin sweat boxes. These boxes have 2 inches of hay in the bottom, and are covered with a large sheet of paper. The boxes are hauled in on a high wagon with springs, any irregularities in the roads in the vineyards are carefully filled with earth and tramped in to avoid jarring the fruit. Green branches are covered over the grapes to keep off the sun. Two men lift the boxes carefully from the wagon to the stack, carrying them in by hand to the packing house, and placing the boxes in a pile 5 feet high. After twenty-four hours the stems are wilted so they will not snap when handled.

**GRADES OF EMPERORS.**—The pack is made into four grades, the imperial clusters coming first. They must be perfect in color, size and shape of the bunch. The basket they go into is put one into a half crate alone. Fancy ribbons are tied on the stems of a shade that brings out the beauty of the coloring of the fruit. The head packer is an artist, for the skill used is unvarying, in the selection of the proper color. In neither fruit nor in flower have I ever seen the beauty of color that these grapes show with their soft tones and warm bloom. On some the bloom is opalescent, some bunches being amber toned, with a blush on the cheek, while others glowing crimson; others royal purple. They are indeed emperors over all other grapes in size and coloring.

The next grade is the fancy clusters. Two long baskets of these fill a crate. They are simply a perfect grape that runs three and four bunches to a basket; they are heavily ribboned, and each stem is shown by having a bunch of ribbon tied on it, so the purchaser can tell at a glance just how many bunches there are in the crate. The next grade is clusters; into this go the large, irregular-colored, or shaped, bunches. In all these three grades the grapes must be large and perfect. Those dark clusters are also ribboned and are about the grade usually shipped out as the best of the crops grown. This we can tell by the prices, this grade of ours selling at the same price as clusters from other vineyards, while the fancy and imperial clusters range very much higher.

The fourth grade is the form packing and four baskets to a crate. In this the bunch fruit that has to have the imperfect berries clipped are placed, and it is surprising how large bunches are curled into the limited space. All four of the baskets must have fruit of the same shade and color, and this has to be watched, as many people have no eye for color. Then it is a great temptation for the packers to clip the bunches up, as they can make a smoother facing; but as they are working on day work, there is no hesitation in making them do the work right, for what can a consumer want with sprigs of one or two grapes? They all want bunches, and should have them; there



will always be loose grapes enough from the jarring of the cars, without the shipper putting them into the package. The crates should be full, and the extra cleat used under the lids, so when opened in market they will not have settled more than an inch below the edge of the boxes. The grape press is used merely to hold the covers in place until nailed, and no pressure is placed on them.

The packed crates are inspected closely before being nailed up, and occasionally one is dumped out to see if it is all right. If faulty, the packer is shown where it falls down and required to repack it under personal inspection.

The loaded car on the switch has a banner tacked on it, with the name of the ranch and the grapes, with that of the shipping company. If it is extra fancy fruit, the auctioneers are notified, and they post the trade that a car of fancy is to arrive at such a date. These auctioneers take pride in selling the fruit for a good price. They have been among our best friends. Each year they send us the compliments and the criticisms of the dealers. By these we profit the next season packing. Gradually the price has risen. Each year since 1896 we have sold the highest-priced grapes from the State, in carload lots. Last year, 1902, the crop from the thirty acres brought in \$14,105. Nine cars were shipped East, and, after freight, refrigeration, commissions and packing house materials were paid for, returned \$13,896. The winery paid \$209 for the culls. Six of the cars sold in New York for over \$2000 each, the highest being \$2774.47. This is the highest ever paid for a car of grapes. The season of 1902 three cars sold for more than our highest of 1901 crop.

## Agricultural Review.

### Contra Costa.

**WILL TRY CRANBERRY GROWING.**—Gazette: Cranberry growing at Cape Cod is a very profitable industry. Those who are engaged in the work have amassed fortunes. There are tracts of land in eastern Contra Costa county miles in extent, and containing thousands upon thousands of acres, that in the near future will be adapted to this purpose. Some of the extensive owners of tule have for some months made a very careful investigation of the subject—they have had experts out from the East—and these men say that the cranberry will thrive just as well in this country as it does in the far East. The men here state they can grow the berry, market it at a lower price and still realize big profits. Expert cranberry growers are to be brought from Cape Cod and the work of transplanting the New England cranberry will be made. [It should, of course, be also said that cranberries had been tried before in the tule district and, though fruit has been produced, the growing has never reached commercial standing.—EDS.]

### Fresno.

**REEDLEY GROWERS' DRIED FRUIT CO.**—Exponent: Report of the Reedley Growers' Dried Fruit Co. for the year 1903, showing the number pounds of the different varieties of fruit turned into the packing house and the total cash receipts for same: Nectarines, pounds, 15,943; apricots, 17,351; peaches, 211,733; pitted plums, 1281; pears, 36; total number of pounds, 246,344. The receipts for the same amounted to \$12,297.26.—A. I. Powell, Secretary.

**ALFALFA SEED HIGH PRICED.**—San Jose Herald: Owing to a great scarcity of alfalfa seed on this coast the price has raised to 17 cents per pound in the local market, so it is not likely that our farmers will sow a very large acreage this winter. Most of the seed now being offered for sale in the local stores is shipped in from Utah and is a good article, but it comes high. Very little alfalfa seed is harvested in this valley for the reason that there is too much foxtail and other worthless weeds in the fields, and it would be almost impossible to obtain clean alfalfa seed. This scarcity is doubtless due largely to the British-Boer war, as a great amount of seed is being sent to the Transvaal to restore the farming lands that were made desolate by that terrible struggle.

Those farmers who have alfalfa seed to sell are now reaping the benefit of the recent sharp advance in prices.

### Kern.

**FIFTY THOUSAND SHEEP.**—Bakersfield Echo: John Maio is on the lookout for four bands of sheep aggregating 12,000 head, which are due to arrive in this vicinity at any time. The sheep belong to Samuel Biddle, of Hanford, and are coming in from the ranges in Nevada, 160 miles beyond Reno. Mr. Maio says he understands that there are 50,000 sheep just behind Mr. Biddle's bands, and he does not know what may be behind them. The country around Bishop, Inyo county, is reported full of sheep and all indications are that Kern county from now on until after lambing time will have all the transient sheep it can take care of.

### Kings.

**WHERE THEY COME FROM.**—Hanford Journal: A half carload of corn husks were shipped to San Francisco Friday by Isadore Berriantar to be used for tomale jackets.

### Napa.

**FINE GROWTH OF VINES.**—St. Helena Star: Last March L. Stice grafted for the James H. Goodman & Co. Bank, on the old Adamson place, nearly 13,000 vines on Lenoir roots, the variety used being largely Zinfandel. Out of this number 88% of the grafts lived, and the growth for one season has been remarkable. In no vineyard have we ever seen a finer stand than that in one block in the Adamson vineyard, while all the young vines seem to be doing exceedingly well.

### Orange.

**WALNUT CROP.**—Los Angeles telegram: Estimates based on the output of Santa Ana packing houses give the total crop of the southern part of Orange county for this season as 105 carloads. Eight of these came from Capistrano and the remainder from the vicinity of Santa Ana, Orange and Tustin. Last year the production was about 150 cars.

**HIGH PRICE FOR ORANGES.**—C. C. Wagner of Wagner Bros., Fullerton, marketed through the California Citrus Union 1807 packed boxes of Late Valencias, gathered from two and three-fourths acres, between the 2nd and 10th of October, which brought him a net sum of \$3879.83, or equal to about \$1300 an acre. This is one of the best sales made in Orange county this season.

**PEANUTS.**—C. E. Utt, the Orange county "goober king," says there will be about 10 carloads of peanuts shipped this season from this county, of which quantity he will have half. Utt says the acreage devoted to the growing of peanuts in Orange county is rapidly being restricted, as the crop is raised on too small a margin to warrant using good orchard land for the purpose. Last year 15 carloads were shipped from this county. Harvest is now in full blast.

### San Bernardino.

**XMAS ORANGES SHY.**—Sun: That oranges will not be ripe for heavy shipments for the Christmas market was the unanimous report brought in by the directors of the San Bernardino County Fruit Exchange. Nearly all the districts were represented by directors, and the same report, that the fruit was slow in coloring, came from all directions. Secretary Earl Van Loven stated that while the crop is considerably larger than last year, shipments before Christmas will be much smaller than a year ago.

**FIFTEEN CARS OUT YESTERDAY.**—Redlands Facts, Dec. 5: Last night fifteen cars of oranges were shipped out of Redlands and to-night the output will be as many or more. Fruit is coming in at most of the houses at a fair rate, so that most of the machines are kept busy, though not all are running at the full capacity. Cold nights are now coloring the fruit rapidly, but a rain followed by cold nights would be greatly welcomed by growers and packers. Shipments for the holiday market will all be out of the way the coming week. After that there will be somewhat of a lull until after Christmas, when most of the houses will start up at their full capacity.

### San Joaquin.

**CAR OF EMPERORS SOLD FOR \$1750.**—Lodi Sentinel: The grape shipping season for 1903 has closed, and so far as shipping grapes to Eastern markets was concerned the season seems to have been a profitable one, especially to those shippers who used due precaution in the selection and packing of first quality fruit. J. A. Anderson has just received returns of last car of Emperors shipped from Lodi and sold in New York by Sgobel & Day as follows:

C. W. Noton, \$1.80 per crate; M. E. Angier, \$1.75; Sanguinetti Bros., \$1.80; E. E. Morse, \$1.70; J. A. Anderson, \$1.70; L. W. Dye, \$1.60; P. Sturla, \$1.55; P. H. Tindell, \$1.50. Car grossed \$1750.


**CLOSE OF WINE SEASON.**—Grape crushing ceased for the season at the Lodi Winery on the 5th inst. Work had previously been finished at the San Joaquin Valley Winery. The former handled 3200 tons of grapes, making 450,000 gallons of wine, and the latter 2300 tons, making 250,000 gallons of wine. Payment for grapes is made by West & Son this season as follows: One-third cash, one-third on Feb. 15 and the remainder June 15. By not taking the one-third cash before Feb. 15, the entire amount called for by the weight bill may be had on or after that date. Or the entire amount may be had at any time, less 6% discount. A. Bauer, who has charge of the two wineries at this place, will settle for grapes sold here.

### San Luis Obispo.

**SEED FARM PROPOSITION.**—Tribune: E. M. Haven, the Michigan seed man, has decided that he wants to locate at San Luis Obispo, and transfer the business of his company, as soon as practicable, from South Haven, Mich., to this point. This will necessitate the closing up of the old corporation, the Haven Seed Co., which has transacted business successfully for many years at South Haven, and the organization of a new corporation.

### Santa Clara.

**PRUNE SHIPMENTS.**—San Jose Herald: Prune shipments are not heavy, but the great majority of San Jose dealers expect to see very lively shipments within four or five weeks. The reports from the East, so state the big packers, are of a market cleaned out of prunes. Jobbers will be forced to renew stocks, and that quickly. The growers of this valley are holding out firmly for their 3-cent basis. Some producers sold, of course, but the large percentage are determined to wait for the better market which they say is sure to come. The fruit has generally been put into the co-operative exchanges and is being held for the price which the growers say they must have to realize a fair profit. It was stated by a large grower that he and all his neighbors were holding their fruit in this way, and that they expected to see all sold within the next few weeks and at a full 3-cent basis.



**FOUR FREE FRIENDS FOR FARMERS**

Our money winning books, written by men who know, tell you all about

## Potash

They are needed by every man who owns a field and a plow, and who desires to get the most out of them.

They are free. Send postcard,

**GERMAN KALI WORKS**  
93 Nassau Street, New York

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

## CALIFORNIA ALFALFA and FRUIT LAND COMPANY.

The bane of California's prosperity has been the sale of poor land to homeseekers.

**We have some of the Best Land in California,**

Hence in the World, suitable for Alfalfa and Fruit. The severest test of good land is its capacity to raise crops of alfalfa or fruit. We guarantee the land to be adapted to the purpose for which it is sold.

It can be had in Small Farms for Homes or in Large Tracts for Colonization.

Inquire further of

CHARLES WESLEY REED, President,  
Mills Building, 7th floor, Rooms 20-21,  
San Francisco, Cal.

Or of—

T. L. REED, Manager,  
Reedley,  
Fresno county, California.

## CHEAPEST and BEST TREES IN THE STATE.

Cherries, Sugar Prunes, Bartlett Pears, Peaches, Almonds, Plums.

Prices at wholesale or retail.

Also Seed Jerusalem Artichokes for hog feed.

CHARLES WESLEY REED,  
Mills Building, 7th floor, rooms 20-21,  
San Francisco, Cal.

## PATENTS

OBTAINED

IN ALL

CIVILIZED COUNTRIES.

EXPENSE SAVED INVENTORS BY  
PRELIMINARY SEARCHES.

COMMUNICATIONS CONFIDENTIAL.

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports since 1793, with full copies of U. S. Patents since 1872. As a result we are able to give reliable advice as to the patentability of an article, frequently saving the inventor the cost of an application. Our Washington branch tends exclusively to our business before the Patent Office. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, including filing of Caveats, Trade-Marks, Copyrights, Labels, prepare Assignments, Licenses and Agreements; give Opinions on Patentability and Infringements, etc. Circulars free on application.

**DEWEY, STRONG & CO.,**  
(ESTABLISHED 1860.)

**PATENT AGENTS,**

330 Market Street, San Francisco, Cal.  
and 918 F Street, Washington, D. C.

## DON'T BUY GASOLINE ENGINES

one-cylinder engines. Cost less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-5-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. **THE TEMPLE PUMP CO.,** Estab. 1853. Meagher and 16th St., CHICAGO.

until you have "The Master Workman," investigated a two-cylinder gasoline engine, superior to all. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-5-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. **THE TEMPLE PUMP CO.,** Estab. 1853. Meagher and 16th St., CHICAGO.



## The Home Circle.

### 'Tis He That Striveth Not Is Dead.

Greater by far than thou art dead.  
Strive not. Die also thou!—Matthew Arnold after Homer.

Greater by far than we they were.  
But why? Because they strove!  
Refused blind Fate for arbiter;  
Subjected doubt to love,  
Feared not to fight the losing fight,  
Used all the strength they had;  
And, dying, left their lives alight  
To make the ages glad.

Yet think! Though death cut off their days.

Thou nam'st them, call'st them, great.  
They force thine unbelief to praise—  
They shame thy sluggard state.  
They live! Then be it better said  
While each renews his vow:  
'Tis he who striveth not is dead.  
Die not! Strive also thou!

—Curtis Hidden Page.

### The Seven Ages of Hair.

At first the baby's fuzzy crown,  
Protected by its cap of down.  
And then the youngster's curly mop  
That's never known the barber shop.  
The schoolboy, next, his head must strip  
To have a summer's "fighting clip."  
No shears the football age profane—  
The halfback wears a shaggy mane.  
The first white hairs evoke a sigh—  
The beau's convinced that he must dye.  
Still vain, though older, he's appalled  
To note that he is nearly bald.  
Senile, yet sprightly as a grig,  
He dons the undecceptive wig.

### Mistress Ashe's Punch Bowl.

Wild roses in North Carolina are red.  
In the earliest days there were fields of  
these roses, bright and glowing, to be  
seen from the doorsteps of the hip-  
roofed house of the Ashes.

On a summer morning in 1781 Mistress Ashe stood on the threshold of her home, and, shading her eyes with slim fingers, she gazed intently toward Newbern way. In the dusk of the great hall behind Mistress Ashe showed a crowd of dark, frightened faces; the slaves had crowded to the mansion at the first report of the coming of the British foe. Except for these slaves, Mistress Ashe and her sister were alone. The sister was that Mistress Wiley Jones, stories of whose charm of manner still bloom perennial in North Carolina history and song. Mistress Jones was now on a visit from her own home in Virginia.

The column of dust rapidly approached. The sound of marching feet might almost have been heard.

Mistress Ashe turned to one of her slaves: "Go quickly," she commanded. "Request my sister to come hither with all haste to tell me what cheer she offered this Tarleton, whom I fear brings now on us his host—"

The slave had scarcely disappeared when Mistress Jones, just learning of the dreaded approach of the enemy, was hastening to her sister.

"Is it indeed Tarleton?" cried Mistress Jones. "Is it indeed that braggart colonel?" I must tell you, sister, that this same Tarleton bears me a grudge—"

"Heaven forbid!" exclaimed Mistress Ashe, for Tarleton's wrath was to be dreaded.

When the English under Cornwallis marched from Wilmington to Virginia, pursued Mistress Jones, excitedly; "while they tarried up on the Roanoke, a party of officers were quartered upon us. Among them was this Tarleton. On the night on which they were to leave us this braggart grew very bold in his talk to us 'of the rebellion,' as he called it. Roundly he abused our noble friend, Gen. George Washington, more rudely still our dear friend and the General's kinsman, Col. William Washington. He spoke of him as 'that illiterate fellow'—"

"What!" cried Mistress Ashe.

"True. And moreover," quoth Mistress Jones, "he said, 'I hear this much-vaunted fellow—this Will Washington—can scarce write his own name.'"

"Ah," quoth Mistress Ashe, indignantly.

Then, ere pausing for prudent thought, I cried, "But Colonel Tarleton, you ought to know better than that, for you bear on your person proof that he well knows how to make his mark!"

"My sister," cried Mistress Ashe, dared you to allude to that saber stroke in the hand which the gallant Washington did give this Tarleton at Cowpens!"

"I had cause to regret the swiftness of my tongue," declared Mistress Jones, "for he straightway put his mark of devastation on sundry parts of my property."

"Stay," cried Mistress Ashe, with a startled gesture of remembrance. "Hast thou heard of the three-fold oath that this Tarleton has registered, repeating it till its braggart echoes resound from seaboard to untouched forest?"

"Tell me in all haste," urged Mistress Jones, "for they are now almost at earshot—"

"He has sworn that he will plant the flag of old England on every house-top in our land, if not on turret, then, forsooth, on the ashes of every dwelling. He hath sworn that he will carry our noble leaders, the Washingtons, in chains to England. He hath sworn that he will quaff a stirrup cup, a luck drink to these horrid accomplishments from the Ashe punch bowl!"

"Heaven defend us!" ejaculated Mistress Jones.

On the instant the two beautiful sisters presented an undaunted front to the foes.

General Leslie was in command, and right glad were the sisters that the hot-headed Tarleton was accompanied by a superior officer. Right graciously did General Leslie request what he might have demanded from the defenceless women, food and drink for his men and his officers.

The shining mahogany was soon set out with ample store. The Saracen's head peering from the heraldic device on every glittering piece of silver seemed to desire now to exchange its noble motto, "Non sibi sed alienis," is to a ringing "A strong arm for us and a sword-point for others."

But the Saracen heads kept all to their inviolable silence. Mistress Ashe also held her lips silent all through Tarleton's braggart abuse of the forces of her countrymen, while her heart beat with anxiety lest he take this occasion to demand a brew in the Ashe punch bowl.

Minded of the thrust in the parrying of wits that Mistress Jones had dealt him on the Roanoke, he was fain now to repeat his bit of braggadocio, sure that Mistress Jones would now be at his mercy, fearing, as she surely would fear, to bring by any bit of her tongue's sharpness his anger upon her sister.

"Here, too, Mistress Jones!" he cried loudly. "I find friends of those ungainly woodsmen, the Washingtons. Would I could see these wonders of the Western world, these—"

"Ah, Colonel Tarleton," rang out Mistress Ashe's clear tones. "Had you but looked behind you at Cowpens, when you fled so unceremoniously, you could have had that pleasure—"

On the instant Tarleton grasped his sword hilt. Bitterly did Mistress Ashe repent on the instant of the piece of repartee, since become a line in our history.

What would have been the instant result of Tarleton's wrath none could tell, for at that moment General Leslie, hitherto detained without, entered.

Quickly he inquired the cause of Mistress Ashe's agitation; quickly on learning the cause he rebuked the colonel: "Say what you please, Mistress Ashe, Colonel Tarleton knows better than to insult a lady in my presence."

The colonel, greatly chagrined at this rebuke in the face of his subalterns, laid a plan for speedy revenge.

With no hint of his oath, Tarleton led the folk to the noted Ashe punch bowl. He related for his general's hearing many stories of that bowl, antique in

England ere the Mayflower's keel had cut the ocean plying westward. He told how in America it had grown thrice precious to its owners, for that almost every American leader of the Revolution had sipped exhilarating draughts from its generous crystal depths. He told how about this very board there gathered around that bowl, when chance and change of war permitted, five officers of the revolutionary army, all of one name and blood. Gen. John Ashe, his son, Capt. Samuel Ashe, Col. John Baptista Ashe, Samuel Ashe, later to be first governor of North Carolina, chosen by the people, and Cincinnatus Ashe, a captain of marines, and besides these five officers there was another, a private being too young to hold a commission, but not too young to give his life to his country.

"Mistress Ashe," cried Leslie, "the soldier of any nation may feel honored to taste a draught from a brew that so many brave men have quaffed. Now since you have so amply entertained your foemen, can you not add to your hospitality, I pray you, a draught from the Ashe punch bowl?"

Triumph at the success of his ruse shone on the ruddy countenance of Tarleton.

Mistress Ashe ordered the brew to be brought. After the delay necessary to the concocting of so rich a beverage, the bowl was borne into the dining-hall.

The crimson side of the bowl caught the summer sunshine and glowed with deeper rufescence. Fragrance of roses, spices, wines, filled the hall. On top the softly surging, wine-rich waves floated a million rose petals—wild rose petals—shredded from golden centers.

Mistress Jones, intrepid woman that she was, trembled where she stood. She felt that if Tarleton must now quaff a luck drink to his declared designs from that bowl, destruction indeed awaited the country and its leaders.

Mistress Ashe rose from her seat at the head of the table. General Leslie and his officers rose with her.

"General Leslie," spoke Mistress Ashe, "this bowl is the most precious possession of my husband's people. Generation after generation have sipped the nectar of his brew therefrom. The men who have tasted of this fragrant have ever been of the brave the bravest, yet were they gentle as women to the weak and the defenceless. To such a one, General Leslie, be he friend or foe, I will offer a draught from this bowl."

Whereupon she poured a glass for General Leslie. While the general held his glass uplifted, waiting the filling of all the glasses, Mistress Ashe turned to address Tarleton.

"Colonel Tarleton," she said, "I have heard of your triply-strung oath. I have heard that you have sworn to plant the flag of England on the roof of every American home, or, failing that, on its ashes. I have heard that you have sworn to carry our leaders in chains to the foot of the throne."

The colonel's face glowed with fierce anger.

"And I have heard," pursued Mistress Ashe, "that you have vowed to take your stirrup cup, ere you ride forth on accomplishments of these intents—from the Ashe punch bowl!"

There was a moment's tense silence, when Mistress Ashe spoke again:

"Heaven grant that our leaders in war may become our rulers in peace!" Mistress Ashe put her slender hands about the bowl and lifted it high above her head.

"Colonel Tarleton!" she cried dauntlessly, "as now snaps one cord of your triply-strung oath, so may all arrows shiver from the slackened bow of the braggart! For never, Colonel Tarleton, from the Ashe punch bowl shall cup be offered to the cruel foeman of our people!"

So saying she let slip the precious burden from her uplifted hands.

Drenched with the ruddy dew, her hair crowned with the rose of wreath that had fallen from the bowl as she cast it from her, with red rose petals fluttering from erect shoulders to high-arched feet, she made a picture, beautiful, dauntless.

General Leslie dropped his glass untouched on the crimson wreck that had splashed its brilliancy over the waxen floor of the hall.

Outside in the brilliant sun of July a million rosebuds grew for fresh blooming, but never more would any of their kind crown rich libations in the once priceless, now shattered, punch bowl of the Ashes of North Carolina.—Martha Young in Springfield Republican.

### The Art of Getting to Sleep.

All the conditions must be favorable to sleep. The bedroom should be quiet, dark and airy. In winter it is better to have the window away up than to shut it, so that a knife-edged draught shall chill an exposed shoulder. The temperature of the bed should be agreeable. Getting to sleep when the feet are cold is as slow a job as getting to sleep when hungry. A hot-water bottle in one case and a piece of bread and butter in the other will help things. I leave it to you to decide which is for which. A warm bed in winter is easily got, but a cool bed in summer is not so simple a proposition. However, sheets made of straw matting, interposed between the regular sheet and the mattress, will be found to mitigate sensibly the horrors of a hot night. It preserves the softness and springiness of the bed, and yet is pleasantly cool without being too cool. Personally, I find that sleep comes soonest when I have no pillows at all.

The next thing is to relax utterly. Remember that the corner of the jaw is the citadel of tension. While that is clinched, no sleep can come. The reason why we fail in this is the same as the reason why we fail in other things. We do not very genuinely want to succeed. As we lie stretched out after a busy day, there are so many thoughts that we want to chase after that we drop the notion of sleep, though we know that to-morrow is another day on which we can think. It is all very well to say: "Dismiss these thoughts." How to dismiss them is the problem that each must solve.

At all times a perfect mob of ideas and words stand at the gate leading into the mind trying to get in. While we wake and are sane, there is something that stands at this gate and lets in only the sensible ideas and the words that have relation to the subject in hand. All the others it keeps shooing away with: "Get back there! Go on away." It is this inhibitive faculty that keeps us sane. But in order to reach the general paralysis of sleep we have to pass through a preliminary stage wherein we are as foolish as any lunatic. When the sentinel at the gate of the mind goes off duty for the night, the mob of irrational ideas and words come trooping in; and so when I would court sleep, I deliberately open the door of my mind to the rabble, turning loose upon it a troop of unrelated words and phrases. For some reason or other I find that the vocable "abracadabra" is a good one to start off with. Often a word or sentence will repeat itself with increasing rapidity—and shall I say loudness?—until it is all a jumble, which breaks up simultaneously with the disintegration of the colored pattern before my closed eyes.—Harvy Sutherland in Everybody's Magazine.

### Typhoid Fever.

The world will be slow to give up the theory that typhoid fever is a germ disease, disseminated through the agency of infected water or milk, even at the bidding of so eminent a bacteriologist as Dr. Koch, who has been refuting the commonly accepted view before the military school at Berlin. He did not deny that the typhoid fever germ can live in water or milk, and that when it is taken into the stomach with these fluids causes illness. But he declared that it does not live long outside the human body, and that such agencies as milk and water are not important factors in dissemination. From special investigations made at Treves, where there was an epidemic of typhoid, he has concluded that the personal contact of typhoid patients with



well persons is the chief cause of infection, and that isolation of patients is the most effective way of exterminating it. Further evidence on this point may properly be asked. But, meanwhile, it may well be advisable to add more attention to the handling of patients than to efforts at keeping pure the water and milk supply.—Providence Journal.

### A Turkey's Flight.

The stone dwelling on the corner of the village square in Bedford was then occupied by William McDermett, a Scotchman, and his wife. He was the pioneer among steel manufacturers in this country, and his wife was a woman of birth, breeding, and quite unusual education, who had left wealth and ease to follow the fortunes of the man she loved. Very varied fortunes they were; but of all the strange tales of her experiences with which she delighted her children and grandchildren, the one oftenest demanded was the true story of President Washington's turkey. Such a turkey!—one that by good luck and good management had arrived at the very acme of perfection exactly at the most auspicious time. With what a mighty spread of pinions had he flown straight to the hunter's lure! And nobly had the marksman met his enthusiastic desire to render up his life for Washington; no stray shot would be found among the tender meat to disconcert his Excellency. Could the turkey himself have selected the one in all that region best qualified to contribute to the glory of his taking off, undoubtedly Mrs. McDermett would have been his choice. Therefore, we may feel confident that, when General Washington and his staff sat down to dinner, it was with well justified complacency that their host prepared to carve the piece de resistance when it should be placed before him.

Between the kitchen and the dining-room was a passage lighted by one window, about the height of a man's shoulder, and an alleyway ran along this side of the house. The window was open, and through it for hours had been wafted a mingling of delicious odors as the preparations for the dinner progressed.

Just at that moment when the hostess was carrying the turkey through this narrow passage, prepared to make a triumphal entry into the dining-room, a soldier's arm was thrust through the window, a hand seized the bird by the legs, and in a twinkling Mrs. McDermett was left staring at an empty dish, while flying feet beat the road as the hungry thief made off with his prize.

Poor Mrs. McDermett, thus robbed of her turkey and her triumph at the very crowning moment of success, after a pause of helpless consternation, marched bravely forward to face her husband's chagrin, her guest's disappointment, and Washington's—ah! what would President Washington think or say?

Putting down the empty platter before the astounded host, amid the quizzical surprise of the staff officers, she told her story of the soldier-thief, and then overcame with mortification, turned with a sob to apologize to Washington. Arising from his place, he took her hand and gallantly kissed it, saying: "Think no more of it, my dear madam," with a motion toward the well furnished table; "surely I can say with your countryman, Sir Philip Sidney, 'His need is greater than mine.'"

It is no wonder than in after years, Mrs. McDermett avowed that to be thus consoled by General Washington was well worth all the chagrin and embarrassment that had been caused by the sudden loss of the turkey.—Anna Porter Rex in December St. Nicholas.

### No Use to Whine.

There isn't anything in the world more disagreeable than a whining person. He whines if it is hot. He whines if it is cold. He whines at this, he whines at that—he whines at everything. Whine, whine, whine. It is just

a habit he has fallen into. There is nothing the matter with him. It is just a bad habit.

The whiner is generally an idle person or a lazy one. What he needs is to be set to work—at real hard work, mental or physical—some work that will interest him and engage his whole attention and he will not have time to whine. We know two women. One of them does her own housework and takes care of her horse besides. She is happy and singing all the day long. The keyboard of her life sounds no whining note. It is a pleasure to be with her, a good, wholesome tonic to watch her. The other woman is so situated that she does not have to work—nothing to do but to amuse herself. She has no zest in life, no interest in anything. She is a bunch of selfishness and whines at everything. Whining has become such a habit with her that her most casual remark is tinged with a whine. She is miserable herself and makes everybody else in her presence miserable. She is a weakling, a parasite, a drag, a heavy weight on somebody all the time.

Get the whine out of your voice or it will stop the development and growth of your body. It will narrow and shrink your mind. It will drive away your friends—it will make you unpopular. Quit your whining; brace up; go to work; be something; stand for something; fill your place in the universe. Instead of whining around, exciting only pity and contempt, face about and make something of yourself. Reach up to the stature of a strong, ennobling manhood, to the beauty and strength of a superb womanhood.

There is nothing the matter with you. Just quit your whining and go to work.—Medical Talk.

### Domestic Hints.

**LETTUCE SANDWICHES.**—An entire leaf of lettuce is seldom used nowadays in a sandwich. Instead, the leaf is cut in ribbons with scissors, put between thin slices of buttered white bread and seasoned with mayonnaise, French dressing or salt, as preferred. Lettuce should always be crisped before using and only the heart leaves utilized.

**MASHED POTATOES, MILANAISE.**—Boil the required number of potatoes till done, drain till they are perfectly dry; then mash with a fork till smooth and creamy, moistening during the mashing process with chicken stock. Season with salt and white pepper and add considerable whipped cream—enough to enable you to beat the potato with an egg beater. Put in a dish, smooth lightly, sprinkle grated parmesan over the top and brown in a rather hot oven.

**FRIED CARROTS.**—Have very small carrots, scrape and clean well and split in two lengthwise. Drop into boiling fat and let cook till tender and brown. If preferred, they may be dipped in egg and crumbs before frying. In arranging for the table scatter chopped chives and chopped parsley over them. If liked, a sauce of melted butter and lemon juice seasoned with paprika may be passed with the carrots.

**SPANISH CREAM.**—Put the yolks of eight eggs, four ounces of sugar and a quart of milk in a double boiler and cook slowly till it thickens. Add to it two ounces of powdered gelatine dissolved in a very little water. When this is quite cool add a pint of freshly made strawberry marmalade, a gill of rum and a pint of whipped cream. Put into mould and set on ice till the cream is quite stiff and firm, which will take probably from two to four hours.

**LARDED BEEF.**—A bit of shoulder or some other inexpensive cut of beef makes an excellent larded pot roast, and, when properly prepared, it is almost equal to a good rib roast. A lean cut which would otherwise lack fat is most suitable for larding, and pork which is firm and young is the best. The strips should be cut about as thick as a lead pencil and 3½ inches long. Draw about two dozen lardons through the beef with a larding needle and insert, if desired, strips of carrot and onion, using the fingers and a small,

sharp knife. Meat treated with vegetables in this way is said to be daubed, and larding and "daubing" are characteristic of the French beef à la mode, which is generally made of a piece of plain round of beef and roasted in the pot until it is almost as tender as a fillet of beef. A larding needle costs only 10 or 12 cents, and should be a part of the outfit of every housekeeper.

**APPLE, NUT AND CELERY SALAD.**—Use equal parts of any proportion convenient at the time. Split the celery stalks, lay several together and shave off in thin slices. Use almonds, pecans, pecans or walnuts, removing skins when possible, and cutting or chopping in small pieces. Do not prepare the apples until ready to put the mixture together. Cut them in eighths, pare and cut from the end in thin slices. Season the mixture with salt and paprika and mix with French or mayonnaise dressing.

Teacher—Johnny, what is the oath of office?

Johnny—It's when a man dassent swear around the house.

### LOS CATOS--THE CEM CITY.

Property for sale in the town and its suburbs; the center of the fruit belt, beautiful for location, climate unexcelled.  
6½ acres ¼ mile from depot, on Saratoga road; a snap. Price \$4500  
13 acres 1 mile out; in orchard; comfortable residence. \$3500  
1 acre close in; elegant improvements; large house. \$4500  
26 acres, summer resort, 4 miles out, part in orchard; a bargain; near station. \$3500  
Extra bargain, right in town, 12-room house, well kept grounds. \$6500  
In heart of town, beautiful residence, well kept grounds. \$3600  
5-acre tract close in, with orchard. \$2000  
One same size adjoining. \$1800  
5-acre full bearing orchard, fine improvements, 2½ miles out, large house, only. \$3000  
JOHN F. BYXBEE Palo Alto Santa Clara County, Cal.

### FRUIT AND VINEYARD LANDS

Sold in 10-Acre Tracts,  
\$160 to \$170 per Acre,  
In the Celebrated

SANTA CLARA VALLEY,

On the direct road from San Jose to

STANFORD UNIVERSITY.

EASY PAYMENTS.

Address: B. E. BURNS, Mountain View, or  
I. J. TRUMAN, 906 Call Bldg., San Francisco.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing, school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

### An Item of Interest.

Is your property for sale? Then why not list it with us?  
Deal with a successful concern and success will be yours.

**DOES SOME ONE OWE YOU MONEY?**  
No matter where the debtor lives, we can collect it for you.

No collection—no fee. Fair, isn't it?  
Perhaps you need money. You can borrow on your personal note and pay in installments.

Write us to-day. It may mean money to you.

**RIVERSIDE MERCANTILE AGENCY,**  
RIVERSIDE, CALIFORNIA.

### GLENN RANCH,

Glenn County, - - California.

### FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.



Entrance to Park.  
Property Kearney Vineyard Syndicate, Fresno, Cal.

# ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

**KEARNEY VINEYARD SYNDICATE**

KEARNEY PARK, FRESNO, CALIFORNIA

### STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, December 2, 1903.

### CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being for No. 2 Red per bushel:

	Dec.	May.
Wednesday	81 1/2 @ 81	81 1/2 @ 80 1/4
Thursday	81 1/2 @ 82	80 1/2 @ 81 1/4
Friday	81 1/2 @ 82 1/2	81 1/2 @ 81 1/4
Saturday	82 1/2 @ 81 1/2	82 1/2 @ 82 1/4
Monday	81 1/2 @ 82 1/2	81 1/2 @ 82 1/4
Tuesday	81 1/2 @ 82 1/2	81 1/2 @ 82 1/4

### CHICAGO CORN FUTURES.

Prices of futures on No. 2 corn per bushel in Chicago were as follows for the week:

	Dec.	May.
Wednesday	42 1/2 @ 42	42 1/2 @ 42
Thursday	42 1/2 @ 42 1/2	41 1/2 @ 41 1/2
Friday	42 1/2 @ 43	43 @ 43 1/2
Saturday	42 1/2 @ 41 1/2	43 1/2 @ 43
Monday	41 1/2 @ 41 1/2	42 1/2 @ 43
Tuesday	41 1/2 @ 40 1/2	42 1/2 @ 42 1/2

### SAN FRANCISCO WHEAT FUTURES.

The range of values in San Francisco for No. 1 White wheat per cental was as follows:

	Dec., 1903.	May, 1904.
Thursday	\$1 37 1/2 @ 1 38 1/2	\$1 34 1/2 @ 1 35 1/2
Friday	1 37 1/2 @ 1 38 1/2	1 35 1/2 @ 1 37
Saturday	— @ —	1 38 1/2 @ 1 37 1/2
Monday	— @ —	1 37 @ 1 38
Tuesday	— @ —	1 37 1/2 @ 1 37 1/2
Wednesday	— @ —	1 36 1/2 @ 1 35 1/2

### Wheat.

The market has shown more firmness the past week, but trading here was largely in the speculative field. Spot offerings continue of too limited volume to admit of any great activity. The firmer feeling was largely in sympathy with Chicago, where advances were based on dry weather in the Winter wheat belt. In some parts of this State there are complaints of dry weather, and this aided in imparting strength to the local market. Shippers are doing very little. There has been only one wheat clearance for Europe thus far the current month, that being a part cargo of 550 tons, and that there will be much outward movement of this cereal in the near future is not probable. Not only is wheat being firmly held, but ship owners are contending for higher freight rates than have been lately current. Most of the chartering of grain ships of the past few months has been of French vessels. The French fleet is now practically off the market, a portion of the same having lately departed from here in ballast to seek business elsewhere. With freights and wheat both on the up grade, the foreign markets will have to improve materially to admit of profitable export business. The latest spot charter was of a French bark at 11s 3d for wheat and barley cargo to Cork for orders to any port in the United Kingdom, or to Havre, Antwerp or Dunkirk. The cargo of the vessel will be undoubtedly largely barley, and the charter is no better than 10s for a straight wheat cargo, owing to the difference in bulk. This year's California crop is estimated at 475,875 tons, with 291,800 tons on hand Dec. 1st.

California Milling	\$1 40 @ 1 50
Cal. No. 1 shipping, alongside	1 35 @ 1 37 1/2
Oregon Club	1 35 @ 1 40

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.37 @ 1.38 1/2.  
May, 1904, delivery, \$1.34 1/2 @ 1.38 1/2.  
Wednesday, at the forenoon session of Exchange, December, 1903, wheat sold at — @ —; May, 1904, at \$1.36 1/2 @ 1.35 1/2.  
Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1902-03.	1903-04.
Liv. quotations	68 1/2 @ 68 1/2 d	s-d @ s-d
Freight rates	11 1/2 @ s	10 1/2 @ 11 1/2 s
Local market	\$1 35 @ 1 37 1/2	\$1 35 @ 1 37 1/2

### STOCKS OF GRAIN IN STATE DEC. 1.

Stocks of cereals, etc., in the State on Dec. 1, 1903, and previous dates are given by the Merchants' Exchange as follows:

	Dec. 1st.	1903.	1902.	1901.	1900.
Flour, bbls.	147,718	166,413	140,747	144,108	
Wheat, cts.	5,436,920	6,151,060	12,023,680	12,401,980	
Barley, cts.	4,471,300	2,947,040	4,467,300	3,893,840	
Oats, cts.	327,800	343,460	304,520	200,280	
Rye, cts.	39,800	53,740	168,480	151,040	
Beans, sks.	659,908	752,874	476,874	243,034	

### Flour.

Movement is not very brisk, either outward or on local account, but supplies are of quite moderate volume and prevailing values are being tolerably well maintained. Stocks are principally bakers' and family extras. Superfines have been offered so sparingly for some time past that little more than nominal quotations have been possible on this description.

Superfine, lower grades	\$3 00 @ 3 25
Superfine, good to choice	3 35 @ 3 50
Country grades, extras	4 00 @ 4 25
Choice and extra choice	4 25 @ 4 50
Family brands, jobbing	4 50 @ 4 75
Oregon, Bakers' extra	3 50 @ 4 00
Washington, Bakers' extra	3 50 @ 4 15

### Barley.

Tendency has been against the buying interest most of the week under review, especially for desirable export and brewing grades, offerings of which are light. Most of the barley which has lately gone outward is little better than feed, and ordinarily would not be accepted for shipment. Choice to select brewing is in such scanty stock supply as to admit of only

nominal quotations for the same at present. Desirable seed qualities are also being offered sparingly, and are being held in the main above prices obtainable for feed qualities. There were three clearances of barley for Europe the current week, aggregating 7233 tons, with a valuation of \$186,000. Stocks in State on Dec. 1st are estimated at 223,500 tons.

Feed, No. 1 to choice	\$1 12 1/2 @ 1 15
Feed, fair to good	1 11 1/4 @ 1 12 1/2
Brewing, No. 1 to choice	1 16 1/4 @ 1 22 1/2
Chevalier, No. 1 to choice	1 37 1/2 @ 1 47 1/2
Cbevnler, common to fair	1 12 1/2 @ 1 32 1/2

### Oats.

There have been no radical changes in quotable values since last review, but market was decidedly firm in tone, buyers finding it necessary as a rule to pay full current figures. Spot stocks are not of heavy volume of any description, and particularly are offerings of high grades or of desirable seed qualities of light proportions.

White oats, fancy feed	\$1 30 @ 1 32 1/2
White, good to choice	1 25 @ 1 27 1/2
White, poor to fair	1 20 @ 1 22 1/2
Milling	1 27 1/2 @ 1 32 1/2
Surprise, good to choice	1 25 @ 1 35
Black Russian feed	1 25 @ 1 40
Black for seed	1 50 @ 1 65
Red, fair to choice	1 20 @ 1 32 1/2

### Corn.

While there is not much spot stock of either domestic or Eastern, the demand is also quite limited at current rates. Offerings are principally Large Yellow and White. There is a fair inquiry for Small Yellow, mainly for chicken feed, and for this variety comparatively stiff prices are being realized in a limited way.

Large White, good to choice	\$1 25 @ 1 30
Large Yellow	1 22 1/2 @ 1 30
Small Yellow	1 40 @ 1 50
Eastern, in bulk	1 20 @ 1 25

### Rye.

Values are being maintained at last quoted range, but movement is light, with stocks in the hands of local dealers of small volume.

Good to choice, new	\$1 25 @ 1 30
---------------------	---------------

### Buckwheat.

Market is quiet at quotably unchanged values. Millers are carrying moderate stocks.

Good to choice	\$1 90 @ 2 25
----------------	---------------

### Beans.

Considerable business is doing in Large Whites, Pinks and Limas. Values for above varieties are being well maintained at prevailing rates. Market for Pinks is especially firm, there being no heavy stocks of this variety. Bayos are ruling fairly steady, but quiet. Red beans are in rather limited supply, and should there be active inquiry, prices would likely go higher. Black-eyes are offering at tolerably low figures, and are not at present receiving much attention from any quarter.

Pea, fair to good, 100 lbs.	\$3 00 @ 3 25
Small White, good to choice	2 90 @ 3 10
Large White	2 40 @ 2 60
Pinks	2 60 @ 2 75
Bayos, good to choice	2 35 @ 2 45
Red Kidneys	4 00 @ 4 25
Reds	3 25 @ 3 50
Limas, good to choice	3 00 @ 3 10
Black-eye Beans	2 00 @ 2 15
Garbanzos, large	2 00 @ 2 25
Garbanzos, Small	1 25 @ 1 50

### Hops.

Not much doing in this center, either on local account or for shipment. Choice hops are in only moderate stock and are being very steadily held. Market for defective qualities is lacking in firmness, there being little inquiry from any source for hops of this description. The Producers' Price Current of New York reviews the situation as follows: "The market has shown little change in the general features the past week. In this State the crop is cleaning up pretty closely all the way from 25c. for medium qualities up to 30c. for export, and in several cases a fraction more has been paid for exceptionally attractive lots. Brewers are not showing quite so much interest as heretofore, such buyers having stocked up heavily in the fall and now showing more disposition to hold off. Exporters have shown a little more interest the past week and have taken a fair quantity of State hops, but little if any export buying of Pacifics, though a good many of the latter have been shipped on direct consignment. On the local market some business is reported with exporters at 31 1/2 @ 32c. Advices from England do not indicate much if any change in the general features. German advices continue strong on choice colory hops, but the cheaper grades do not receive much attention from any class of buyers."

California, good to choice, 1903 crop	18 @ 22
---------------------------------------	---------

### Wool.

The local market is exceedingly quiet, with offerings light and buyers operating in the main only against immediate orders. That the market will display any special life until the opening of the Spring season is not probable. Eastern markets are not showing much life, but values are reported fairly steady at practically same range as nominally current for some weeks past. In the local market there

are no changes to record in quotable values.

### FALL.

Humboldt and Mendocino	11 @ 13
Mountain, free	9 @ 11
San Joaquin Plains	7 @ 10

### Hay and Straw.

While the demand for hay is not brisk, arrivals are only of moderate volume, and current values are being quite well maintained, especially for the best grades of horse hay. Supplies are largely in the hands of dealers, and it is the exception where any undue pressure to realize is being exerted. Straw is in light receipt and that there will be any surfeit of offerings of the same during the balance of the season is not likely.

Wheat, good to choice	\$13 50 @ 16 50
Wheat and Oat	13 50 @ 15 50
Oat, fair to choice	11 00 @ 14 50
Barley	10 00 @ 13 00
Clover	10 50 @ 11 50
Alfalfa	9 50 @ 11 00
Stock hay	9 00 @ 9 50
Compressed	13 50 @ 16 50
Straw, per bale	55 @ 65

### Millstuffs.

Stocks of Bran are more than ample for immediate needs, and market is easy at last quoted decline. Milled Corn is being offered at reduced figures. Prices for other mill feed have continued much as last noted.

Bran, per ton	\$18 50 @ 19 50
Middlings	25 00 @ 28 00
Shorts, Oregon	19 00 @ 20 50
Barley, Rolled	24 00 @ 25 00
Cornmeal	28 50 @ 29 00
Cracked Corn	29 00 @ 30 00

### Seeds.

Market for Alfalfa continues to present a firm tone, there being no great quantities offering of either domestic or imported and no probability of there being a glut of supplies this season. Mustard seed is being steadily held; not much in store here and no great inquiry. Stocks of Bird seeds are of only moderate volume; prices remain as last quoted.

	Per cwt.
Alfalfa, Cal., good to choice	\$15 00 @ 16 00
Alfalfa, Utah	15 00 @ 16 00
Flax	2 00 @ 2 50
Mustard, Yellow	2 75 @ 3 00
Mustard, Trieste	3 00 @ 3 25
	Per lb.
Canary	5 @ 5 1/2
Rape	1 1/2 @ 2 1/4
Hemp	1 @ 3 1/2
Timothy	0 @ 6 1/2

### Live Stock and Meats.

Market for Beef showed decided firmness, especially for best qualities, although demand was hardly up to the normal, owing to the temporary closing of a number of large restaurants on account of differences between employers and employees. Values on good to choice Mutton were well maintained at the quoted range, stocks not being large. Both Veal and Lamb ruled steady, there being no great quantities of either kind on the market. Hogs were not in heavy receipt, but supplies were sufficient for the demand at current rates, packers doing very little at present.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net per lb.	6 1/2 @ 7 1/4
Beef, 2nd quality	6 @ 6 1/2
Beef, 3rd quality	5 @ 5 1/2
Mutton—ewes, 7 1/2 @ 8c; wethers	8 @ 8 1/2
Hogs, hard grain, 140 to 200 lbs.	5 1/2 @ —
Hogs, large, hard, over 200 pounds	5 @ —
Hogs, small, fat	5 @ 5 1/2
Veal, small, per lb.	8 1/2 @ 9 1/2
Lamb, per lb.	9 @ 10

### Hides and Tallow.

While not materially lower, the market for Hides and Pelts is devoid of noteworthy firmness, in sympathy with conditions on the Atlantic side. There is a fairly active shipping demand for Tallow and prices are steady.

### Bags and Bagging.

Market is dull and featureless. Quotable values are unchanged and based on asking figures.

### Poultry.

Owing to heavy arrivals of Eastern, the market for most descriptions of California poultry, but more particularly for common chickens, inclined against sellers. Offerings of Eastern poultry the past week have averaged fully a carload per day. Domestic Fryers and Broilers in prime to choice condition met with a tolerably good market. Ducks and Geese had to belarge and fat to receive prompt custom or to bring top figures. Demand for Pigeons was moderate at quotably unchanged prices. Turkeys were not neglected, and prevailing values for this fowl were well maintained, dealers having already commenced stocking up for Christmas.

Turkeys, dressed, per lb.	8 22 @ 25
Turkeys, young gobblers, per lb.	19 @ 22
Turkeys, young hens, per lb.	19 @ 22
Hens, California, per dozen	4 00 @ 5 00
Hens, large	5 00 @ 6 00
Roosters, old	4 50 @ 5 00
Roosters, young (full-grown)	4 50 @ 5 50
Fryers	4 50 @ 5 00
Broilers, large	4 00 @ 4 50
Broilers, small to medium	3 00 @ 3 50
Ducks, old, per dozen	5 00 @ 6 00
Ducks, young, per dozen	8 00 @ 7 00

Geese, per pair	1 75 @ 2 00
Goslings, per pair	2 00 @ 2 25
Pigeons, old, per dozen	1 00 @ 1 25
Pigeons, young	2 00 @ 2 25

### Butter.

Stocks of fresh are on the increase, and the demand is not very active, as many of the large retailers are working off their own cube butter. Market favors the buying interest, especially for other than most select qualities. There is considerable Eastern butter in stock here, including creamery, ladle and process.

Creamery, extra, per lb.	28 @ —
Creamery, firsts	26 @ 27
Creamery, seconds	24 @ 25
Dairy, select	23 @ 23
Dairy, firsts	22 @ 23
Dairy, seconds	20 @ 21
Cold storage	23 @ 25
Mixed Store	18 @ 20

### Cheese.

Market is without improvement, being well stocked with regular flats and very quiet. Supplies of small cheese are quite moderate, as is also the demand. Some of the California cheese makers are closing down, and will in the future sell their milk to creameries.

California, fancy flat, new	13 @ —
California, good to choice	11 1/2 @ 12 1/2
California, "Young Americans"	13 @ 14
Eastern	14 @ 15 1/2

### Eggs.

There have been no large arrivals the current week, and for select fresh the market ruled firm, with occasional sales in a small way up to 53 @ 55c, these figures being for strictly fancy, uniformly large and white eggs. Mixed colors and mixed qualities sold at various prices, mainly within range of 37 1/2 @ 45c. Eastern fresh were obtainable at 32 1/2c wholesale.

California, select, large, white and fresh	52 @ 53
California, select, irregular color and size	37 1/2 @ 45
California, good to choice store	28 @ 32
Eastern, cold storage	26 @ 28

### Vegetables.

Stocks of fresh vegetables were not particularly heavy, and were largely of rather ordinary quality. Only for choice to select did the market show firmness. Held Tomatoes in poor condition went to canners at 10 @ 15c per box. Sales of Green Peas which were off in quality were made at 50 @ 76c per sack. New Egg Plant from Los Angeles met with fair demand at 10 @ 12 1/2c per pound. Rhubarb from San Lorenzo, Alameda county, brought 4 @ 5c per pound in a small way. There were tolerably free offerings of Onions; market was quiet and inclined in favor of buyers.

Beans, Wax, per lb.	3 @ 4
Beans, String, per lb.	3 @ 4
Cabbage, choice garden, per 100 lbs.	60 @ —
Cucumbers, per large box	50 @ 75
Egg Plant, per lb.	10 @ 12 1/2
Garlic, per lb.	6 @ 8
Onions, Yellow Danver, per cwt.	1 00 @ 1 25
Okra, Green, per small box	— @ 1
Peas, Sweet Garden, per lb.	2 1/2 @ 3
Rhubarb, per lb.	4 @ 5
Summer Squash, per small box	40 @ 75
Tomatoes, Bay, per large box	— @ —
Tomatoes, Los Angeles, per crate	50 @ 1 00

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50 @ 60 lbs. gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

### Potatoes.

The local and shipping demand for Potatoes was only moderate, and with offerings from Oregon tolerably heavy and on the increase, the market was barely steady for best qualities and weak for common stock. There has been considerable speculative buying lately of Burbank Seedlings, but only of the most desirable grades. Sweeties were in increased receipt and sold at a lower range of prices than previous week.

Sacramento River Burbanks	8 75 @ 90
Salinas Burbanks, per cental	1 15 @ 1 45
Petaluma and Tomales Burbanks	80 @ 1 00
Oregon Burbanks	90 @ 1 15
Sweeties	1 00 @ 1 20

### Fresh Fruits.

Apples continued in liberal supply, with trade rather quiet most of the week, and for other than most select qualities the market favored the buying interest. Some fancy Spitzenberg from Oregon and northern California were held above quotations. There were small and wormy Apples on market of undesirable varieties which failed to move readily at 25c per box. Lady Apples were in moderate stock and were held mainly within range of \$1.25 @ 2.50 per box, as to size and color, but no very active demand for them has yet set in. Pears were in reduced supply. Choice Winter Nels were held at an advance. Pomegranates were hardly quotable. Persimmons did not make much of a display and demand was limited. Grapes are nearly out; a few Cornechons and Verdels are bringing tolerably good figures. Strawberries and Raspberries were in light receipt and included few which could be termed choice. Cranberries were firmly held, supplies being of rather small compass.

Apples, fancy, per 4-tier box	\$1 50 @ 2 00
Apples, good to choice, per 50-box	75 @ 1 25
Apples, common to fair, per 50-box	30 @ 60
Apples Lady, per box	1 25 @ 2 50
Cranberries, Coos Bay, per box	2 50 @ 3 00
Cranberries, Eastern, per bbl.	10 50 @ 12 00
Grapes, per crate	60 @ 1 00



Grapes, small box.....	50 @	75
Grapes, large open box.....	1 00 @	1 50
Pears, Winter Nellis, box.....	1 25 @	1 75
Pears, other varieties, box.....	65 @	1 00
Persimmons, box.....	50 @	1 00
Pomegranates, large box.....	1 25 @	2 00
Raspberries, chest.....	4 00 @	7 00
Strawberries, Longworth, chest.....	6 00 @	10 00
Strawberries, Melinda, chest.....	3 00 @	6 00

**Dried Fruits.**

The general features of the dried fruit market have not changed to any appreciable degree since last review. The immediate demand is light, but improved inquiry is looked for in the near future, especially from the Eastern and Southern States, there being only light stocks in the hands of dealers in above sections. Present supplies are largely Prunes of the medium sizes and Peaches of high grade. Quotable values for above kinds are without special change, but free sales are not possible at this date at full current quotations. Apples are being steadily held, and are not obtainable in heavy quantities at current rates. Apricots are not in large supply, but in some instances there is disposition shown to grant moderate concessions to effect sales. Pears incline against buyers, especially choice to fancy, which are scarce. Pitted Plums are also in light supply and for choice the market is decidedly firm. Heavy shipments of Prunes continue to be made to Europe. The British ship Scottish Lochs, clearing this week for London, took 1,392,993 pounds Prunes. The steamer Newport, clearing on the 5th inst., carried 190,000 pounds Prunes, mostly for Germany, and 42,000 pounds dried fruit, principally Pears, for Hamburg.

**EVAPORATED OR BLEACHED.**

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/4 @	4 3/4
Apples, extra choice to fancy, 50-lb boxes.....	5 @	5 1/2
Apricots, Moorpark.....	8 @	10 1/2
Apricots, Royal, good to choice, lb.....	6 1/2 @	7 1/2
Apricots, Royal, fancy.....	8 @	9
Figs, 10-lb box, 1-lb cartons.....	55 @	75
Nectarines, lb.....	4 @	5
Peaches, unpeeled, fair to good.....	4 @	5 1/2
Peaches, unpeeled, choice.....	5 @	5 1/2
Peaches, unpeeled, fancy.....	5 1/2 @	6 1/4
Peaches, unpeeled, extra fancy.....	7 1/2 @	8
Peaches, peeled.....	9 @	12 1/2
Pears, halves, fancy.....	9 @	10
Pears, halves, choice.....	7 1/2 @	8
Pears, halves, fair to good.....	6 1/2 @	7
Plums, Black, pitted.....	5 1/2 @	6 1/2
Plums, Yellow, pitted.....	7 1/2 @	8 1/2
Prunes, Silver, good to fancy.....	5 @	7
Prunes, in bags, 4 sizes, 2 1/4 @ 2 3/4 c; 40-50s, 4 1/4 @ 4 1/2 c; 50-60s, 3 1/4 @ 3 1/2 c; 60-70s, 3 @ 3 1/4 c; 70-80s, 2 1/2 @ 3 c; 80-90s, 2 1/4 @ 2 1/2 c; 90-100s, 1 1/2 @ 2 c; small, 1 1/4 @ 1 1/2 c.		

**COMMON SUN-DRIED.**

Apples, sliced.....	3 1/4 @	3 1/2
Apples, quartered.....	3 1/4 @	3 1/2
Figs, White, in bulk.....	3 1/2 @	4
Figs, Black, in sacks, lb.....	3 1/2 @	4

**Raisins.**

The local market is quiet. Offerings are mainly seeded and loose. Association prices are unchanged, some outside stock selling slightly under these figures.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5 1/2 c, per lb.; 3-crown, 5 1/2 c. 4-crown, 6 1/4 c.; Seedless Muscatels, 4 1/2 c.; do floated, 4 1/2 c.; unbleached Sultanas, 4 1/2 c.; Thompson's Seedless, 5 1/2 c.		
Malaga, loose, 2-crown, 5c, per lb.; do 3-crown, 5 1/2 c.; Valencia cured, 4 1/2 c.; Pacific do, 3 1/2 c.; Oriental do, 2 1/2 c. Seeded raisins, 16-oz. packages, fancy, 8c, per lb.; choice, 7 1/2 c.; 12-oz. packages, fancy, 6 1/2 c.; choice, 6 1/2 c.; in bulk, fancy, 7 1/2 c.; choice, 7 1/2 c.		

**Citrus Fruits.**

Oranges are in good supply for this date, mostly large Navels not very highly colored. With the weather frosty most of the week, the demand for this fruit has not been active and market has lacked firmness. Lemons moved rather slowly, but choice to select were steadily held. Lime market was quiet and unchanged.

Oranges, Washington Navels, box.....	1 25 @	2 50
Oranges, Seedlings, box.....	75 @	1 25
Oranges, Japanese, as to size of box.....	75 @	1 50
Lemons, California, select, box.....	2 25 @	2 50
Lemons, California, good to choice.....	1 50 @	2 00
Lemons, California, fair to good.....	1 00 @	1 50
Grape Fruit, box.....	1 50 @	2 50
Limes, Mexican, box.....	4 00 @	4 50

**Nuts.**

Almond market is quiet. Although offerings are light, sales are not readily effected at full figures. The Walnut market is oversold and is decidedly firm. Spot stocks are very light. Peanuts are offering at unchanged prices.

California Almonds, shelled.....	10 @	19
California Almonds, paper shell.....	10 @	11
California Almonds, soft shell.....	7 @	8
California Almonds, hard shell.....	5 @	6
California Walnuts, soft shell.....	13 @	14
California Walnuts, standard.....	12 @	13
Chestnuts, California-Italian.....	8 @	10
Peanuts, fair to prime.....	4 1/4 @	5 1/2
Peanuts, Eastern, hand-picked.....	5 1/2 @	6 1/2

**Wine.**

Market for this year's dry wines presents a healthy tone, there being a good demand for the product of Northern counties at 16@17c. per gallon. Some of last year's wine doctored with sugar is offering at 9c., and will probably sell at about 6c., then be blended with other stock and be foisted on the market to depress values of pure wine. The steamer Newport, sailing on the 5th inst., carried 64,156 gallons and 12 cases, mostly for New York. Receipts at San Francisco last week were 393,150 galls and for previous week were 335,450 gallons. Receipts for month of November were 1,449,310 gallons.

# CUTTER'S BLACK LEG —AND— ANTHRAX (OR CHARBON) VACCINES.

CALIFORNIA'S FAVORITES.—THE LOWEST-PRICED RELIABLE VACCINES.

CUTTER'S BLACK LEG is the most favorably known vaccine in use in California to-day. Eighty per cent of vaccinating stockmen use it—a canvas of your neighbors will confirm this statement—with results entirely satisfactory.

It is put up in Powder, String and Pill Form. We recommend the Pill as being safer and more easily used than either the Powder or String Vaccine. Write for description of it and special Black Leg Pill Injector.

## SAMPLE TESTIMONIALS.

Office of Cone Ranch Company, Red Bluff, Cal., Oct. 6, 1903.

The Cutter Analytical Laboratory, San Francisco, Cal.

Gentlemen:—Referring to your favor of recent date, would say that we have found in our experience of nearly three years in the use of your Black Leg Vaccine, that the results have been very satisfactory. We have vaccinated from 500 to 750 head each season, and each time after some deaths had occurred from Black Leg, and in every instance the disease stopped immediately after vaccination. Having given your vaccines such a trial, it gives us pleasure to recommend them to fellow stockmen. Respectfully,

CONE RANCH CO., T. H. Ramsay, Mgr.

Courtland, Nov. 3, 1903.

The Cutter Analytical Laboratory, San Francisco, Cal.

Dear Sirs:—I have used your Black Leg Vaccine for the last three years, with very gratifying results. Have never lost any cattle from Black Leg, but have used your vaccine as a preventive. I generally vaccinate about thirty head of young cattle annually. Mr. Ed. Johnson, a neighbor of mine, lost seventeen head out of twenty-five. After losing this number, he sent and got your vaccine, and has had splendid results since that time. I cannot say too much in behalf of your Black Leg Vaccine. Please send me enough of your powdered Black Leg Vaccine (single) for twenty head. Yours very truly,

J. M. BUCKLEY.

CUTTER'S ANTHRAX (or Charbon) VACCINE has been used in large quantities this season in herds in which disease had already broken out, and has not failed in a single instance to check the progress of disease.

## PRICES:

CUTTER'S ANTHRAX VACCINE (Double), per two bulbs, containing ten complete doses for double vaccination of cattle, mules or horses; or twenty doses for double vaccination of sheep or goats.....	\$ 1 50
CUTTER'S ANTHRAX VACCINE (Single), per single bulb containing ten doses for single vaccination of cattle, mules or horses; or twenty doses for single vaccination of sheep or goats.....	1 80
SPECIAL SYRINGE for using Anthrax Vaccine.....	3 80

## CUTTER'S BLACK LEG VACCINE.

POWDER AND PILL FORMS.

SINGLE, per package containing ten doses.....	\$ 1 00
DOUBLE, per double package containing ten doses (for first and second vaccination of choice stock).....	1 50
STRING FORM.	
SINGLE, per package of ten doses, including needle.....	\$ 1 00
Per package of fifteen doses, including needle.....	1 50
Per package of twenty-five doses, including needle.....	2 05
Per package of fifty doses, including needle.....	4 00
DOUBLE, per package of ten doses (including needle for first and second vaccination of choice stock).....	1 50

## BLACK LEG VACCINATING OUTFIT.

Complete, including syringe, two mixing bottles and extra needles, for using Single or Double Powder Vaccine.....\$3 50

## BLACK LEG PILL INJECTOR.

For injecting Pill Vaccine under the skin; very strongly made and easiest used of any on the market.....\$2 00

## DISCOUNTS.

100-dose lots.....	10% off list prices.
250-dose lots.....	20% off list prices.
500-dose lots.....	25% off list prices.

OUR PRODUCTS ARE STOCKED BY DRUGGISTS.

**WARNING!** Stocks of our vaccine in the hands of dealers should be fresh, for we exchange new for old vaccine. This provision for exchange sometimes leads unscrupulous dealers to try to substitute other vaccines when ours is called for. They do this when they have on hand old vaccine of other makes which they cannot exchange for fresh, or when they have vaccine on which they make a greater profit. If your druggist has not got our Vaccine, or if he tries to sell you some other, refuse to take it and order direct from us. We pay all charges, including charge for return of money by express.

## CHEAP RATES California, Washington Oregon, Colorado.

We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

TRANS-CONTINENTAL FREIGHT CO.,

G 26 Montgomery St., San Francisco.

G 325 Dearborn St., Chicago.

G 338 So. Broadway, Los Angeles.

## DR. WILLIAMS SCOUR CURE.

THE ONLY RELIABLE REMEDY FOR

Diarrhoea, Dysentery, Bloody Flux, White Scours, Etc.,

of Calves, Foals and other Young Animals.

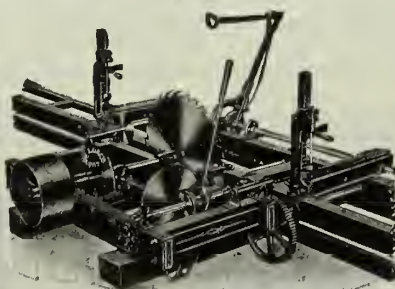
Full directions with each bottle.

ORDER THROUGH YOUR DRUGGIST, OR SENT BY EXPRESS PREPAID.

Price \$1 a Bottle!

Prepared by E. O. Webb, Jr., Ph. G., Petaluma, Cal.

## The De Loach Pony Saw Mill.



The illustration herewith is of a small "Pony" size saw mill, manufactured by the De Loach Mill Mfg. Co. of Atlanta, Ga. It will run with four horse power and cut approximately 2000 feet a day, thus adapting it to the individual lumberman's use. The manufacturers say it can be operated as well with any horse power up to twenty, and reach a capacity of 10,000 feet of inch boards a day. The De Loach Co. manufacture a line of mills of all capacities. They also make shingle, lath and planing mills, edgers, water wheels, grinding mills, gearings, etc. A large saw mill and a general machinery catalogue giving detailed information will be sent free to anyone writing for it.

## BRIGHT'S DISEASE AND DIABETES NEWS.

Office Wine and Spirit Review,  
San Francisco, Dec. 21, 1903.

To PUBLISHERS:

Dear Sirs:—The business men of this City who are now proclaiming to the world the discovery of the cure for Bright's Disease and Diabetes have asked me as one of the beneficiaries to write to some of my brother editors. Hence this letter to you. I was at first as skeptical as anyone. I had reason to be. I had a clear case of chronic Bright's Disease; was ill for a year. It was not thought I would live thirty days. The President of the Pacific States Type Foundry told my wife that the newly-discovered diuretic would save my life, and against my private convictions I was put on it. In six months my recovery was complete.

A friend of mine, Dr. A. J. Howe, a prominent physician, was nearly dead with Bright's Disease. Upon my recovery I told him and it acted the same in his case, and he is now well on the road to recovery. I told one of the writers on the Call, whose mother had Diabetes. She has fully recovered. As a brother editor I personally assure you of the truth of the discovery. Thousands of lives are to be saved and I am writing in the hope that this letter will start some of them right.

Faternally yours,

R. M. Wood, Editor.

The above refers to the newly-discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes.

Send for literature to the John J. Fulton Co., 407 Washington St., San Francisco, Cal.

## MALTHOID

The best low  
priced roofing

## Malthoid Roofing.

Fire resisting. Will thoroughly protect all buildings covered with it. A better roofing for less cost than any other roofing made. Quickly laid and lasts for years.

Send for booklet.

## The Paraffine Paint Co.

San Francisco, Seattle,  
Portland, Los Angeles  
and Denver, Colorado.



## SPRAYING---A NEW IDEA.



## HOGUE'S EYE PROTECTOR.

Absolute Protection from  
Poisonous Sprays.

Adjustable to any eyes.  
Made of finest optical  
glass. Will not rust. Will last for years.  
Send for Price List.

HOGUE OPTICAL CO.,  
211 Post St., San Francisco, Cal.

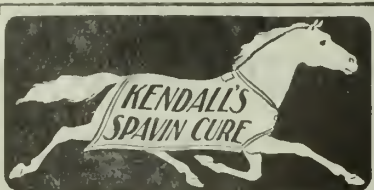


DEWEY, STRONG & CO.

## PATENTS

330 MARKET ST. S.F.





## 20 YEARS SUCCESS

Here is a man who has used our Kendall's Spavin Cure for over 20 years with entire success. Your experience would be the same if you but tried it.

Fulton, Oregon, Feb. 10, 1903.  
Dr. R. J. Kendall Co.,  
Gentlemen: Will you please send me your book "A Treatise on the Horse and his Diseases." I have used your Kendall's Spavin Cure for over twenty years and know of no better liniment for man or beast. Have also used one of your books until it is worn out.  
Very truly yours,  
F. J. NELSON.

It is an absolutely reliable remedy for Spavins, Splints, Curbs, Ringbones, etc. Removes the hunch and leaves no scar. Price \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for KENDALL'S SPAVIN CURE, also "A Treatise on the Horse," the book free, or address

DR. R. J. KENDALL CO., ENDSBURG FALLS, VT.

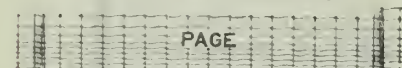
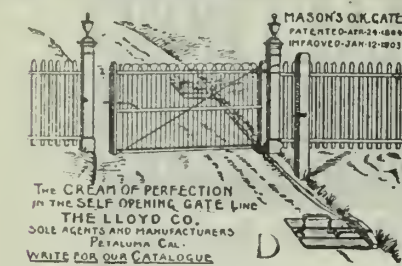
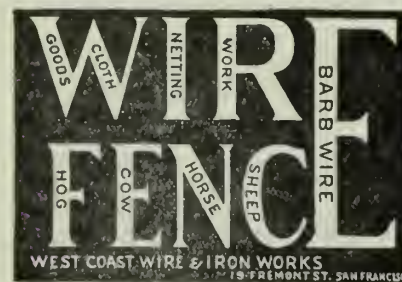
## WE ARE THE OLDEST SCALE MANUFACTURERS IN THE WEST.

(Incorporated in 1881.)

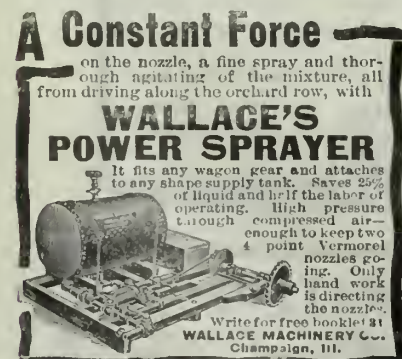
We have REDUCED PRICES 25%, and have retained the STANDARD that has made our goods so popular. We ship on approval. We pay the freight. We do repairing. We do as we say—save you MONEY on steel and wood frame SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, Patent Specialties, Etc. Investigate.

UNION SCALE CO.,

Dept. 17, DES MOINES, IA.



IF IT'S PAGE STOCK FENCE, the TOP WIRE is 3-16 inch in diameter, and a double-strength wire at that. So much stronger. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



100 FINE SILK PIECES, Extra large size, lovely colors for fancy work, only 15 cents postpaid. 2 lots for 25 cents. Money returned if not as represented. Address, EXCELLO CO., 472 Main St., East Orange, N. J.

## FRUIT MARKETING.

### California Fruits in New Zealand.

A large firm of fruit brokers at Wellington, New Zealand, has written a letter to Mr. Alden Anderson of Sacramento, manager of the California Fruit Distributors, which voices the high estimate placed on California fruits. We quote the following:

We may state that the California fruit is the best that comes into this market, and oranges and lemons will realize extreme prices from now till February. Lemons and oranges are very scarce from the beginning of October to the end of January—four months—and the first California lemons to arrive here in October should realize 30s per case, containing 300 lemons, and cases containing 260 oranges should realize 25s. In November lemons will realize the same, but oranges will go up to about 27s per case. In December lemons should rise to 32s 6d and oranges to 30s. In January lemons will fall to 20s to 25s, and oranges to about £1 per case, and in February lemons will not realize more than about 18s, and oranges are not worth shipping to arrive here in March, as we get our island oranges in, and they sell at 6@7s per case, containing 300 oranges. If you will make us steady shipments to arrive here till February you should coin money.

Last season we imported large quantities of lemons and oranges from Messina, Italy, and although they landed here in good condition and realized very high prices, they are not to be compared with California fruit. We are not ordering any fruit from Messina this year, as the scale is very prevalent, and most of the fruit had to be fumigated on its arrival last season, which took a great deal of the value off, but we have never known California fruit to be affected with scale.

With regard to shipments of American apples, we may state that an Auckland firm sent us a quantity down last week, which realized 17s per case all round, but did not fetch more, as there were 1000 cases of Hobart apples in the market. But next month good-colored dessert American apples should realize 20s or 25s per case. If you ship apples, we must urge you to be very careful that they are not affected with codlin moth, because, if they are, they will not be allowed to land in this colony.

The duty on lemons and apples is 1d per pound. Oranges are free.

### American Fruit in England.

From UNITED STATES CONSUL JAMES BOYLE, Liverpool, England.

The outlook for an increased sale of American fruit on this market for 1903 is very promising, owing to the short supply of European fruit of all descriptions and the absolute failure of the English fruit crop. Last season's imports (1902-3) of American and Canadian apples into Liverpool were the largest since the year 1896-97, the total being 1,396,420 barrels and 74,691 boxes, yet the imports so far during the present season, which opened early in August, 1903, are 111,500 barrels, against 89,500 barrels for the same period last season. Notwithstanding the reports that this season's crops are not to be so large, the receipts in Liverpool thus far are in excess of last year.

On the whole, the condition and quality of the fruit from the United States is satisfactory, but there are instances where the packing was very bad—in fact, some of the trade describe it as dishonest packing, a few large apples being put on the top and at the bottom of each barrel, and in the center of the barrel all sorts of rubbishy apples were placed. If packers will be more particular in grading and packing greater confidence will exist here with buyers and the result will be better prices. Great satisfaction is expressed at the result of the action taken by the Canadian government to prevent fraudulent packing, for by it irresponsible shippers are prevented from operating.

The total import of apples into the United Kingdom for last season (1902-3) was 2,508,193 barrels, of which 1,870,719 barrels came from the United States and 637,474 barrels from Canada.

Already large shipments of apples have come in from Canada. Canadian shippers have been quick to avail themselves of the failure of the fruit crop generally, and particularly the apple crop, in England.

A great many plums have arrived in England this summer from Germany, but there have been many complaints as to their quality.

Spain is getting to be a great source of supply for fruit consumed in this country. Excellent melons, something like American cantaloupes, are imported from Spain and can now be bought in Liverpool at prices ranging from 6 to 16 cents.

Liverpool, England, October 6.

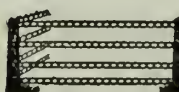
If you have any trouble with lamps—any trouble whatever—send for my Index.

I know of no lamp-disease that it does not cure immediately.

Costs nothing.

MACBETH, Pittsburgh.

## Truss and Cable Fences



Are built just like a board fence—one strand at a time, you can use as few or as many strands as you require. If you want a stock fence use three strands, when you want it sheep and hog tight add one or two strands—remember you can do this at any time you like. It is easy to keep in repair, and lasts twice as long as other wire fences.

Write for descriptive circular.

Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.

## THE FRESNO SCRAPER.

3 1/2 - 4 - 5 Foot.



FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.



NO HUMBAG. Farmer's Brighton's Swine V. Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 48 different ear marks. Extracts Horns. Price \$1.50. Send \$1 for trial. If it suits, send balance. Paid May 6, 1902. Hog and Calf Holder only 75c. GEORGE BOOS, Mfr., FAIRFIELD, IOWA.



## Bucket Bowl Separators

Who makes them? All our competitors make them; we have invented something better, and are the only ones who can make the

## Tubular Separators

The Tubular is a distinct type of separator, different from all others, full of improvements that make it better, as you will agree if you examine one. Write for free catalogue No. 131.

The Sharples Co., P. M. Sharples,  
Chicago, Ill. West Chester, Pa.



## A Position or Your Money Back.

A business education pays A when you can turn it into cash.

We want to help you make it pay. With over 500 positions to fill a year, and with the income from 400 students behind us, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

R. L. DURHAM,  
305 Larkin St., San Francisco, Cal.



BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago. : : : :

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 190 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.

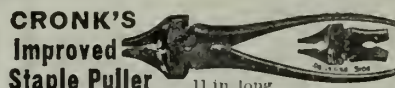
113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. A. VAN DER NAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



## BUILT TO LAST

Never outclassed—Sure Hatch Incubators. Built better than your house. No hot centers; no chilling draughts on sensitive eggs. Every cubic inch in egg chamber at uniform, blood temperature of fowl. It's a continual pleasure to hatch nearly every fertile egg with a Sure Hatch. Free catalogue. E 14 with pictures tells lively story. SURE HATCH INCUBATOR CO., Indianapolis, Ind.



CRONK'S Improved Staple Puller 11 in. long IS AT THE FRONT. Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull staples when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid CRONK & CARRIER MFG. CO., Elmira, N. Y.



Best on the market. Send for Free Catalogue Stockmeat's Supplies. F. S. BURCH & CO., 144 Illinois St., Chicago



## GOOD ROADS.

## The Brownlow Bill Before the Present Congress.

Congressman W. P. Brownlow of Tennessee to-day reintroduced in the House his well-known good roads bill. Acting on the criticisms of opponents and the suggestions of friends, Colonel Brownlow has revised the bill somewhat, but all the important features have been preserved. The new bill appropriates \$24,000,000 to be used as a fund for national aid in the improvement of highways. This sum is made available during the next three years, at the rate of \$8,000,000 annually. No State or subdivision thereof can secure any part of this fund without raising an amount equal to the share received. The distribution among the several States and Territories is to be made on an equitable basis, so as to leave no room for "log-rolling." In reference to the bill, Colonel Brownlow said recently:

"I think my good roads measure has made wonderful progress during the past year. Conventions all over the country have endorsed it, and a number of State Legislatures have adopted resolutions in favor of it. The number of public men who have come out for it has exceeded my highest expectations. In the West and South the sentiment is especially strong. A large number of Senators and members from those sections have assured me of their willingness to support the measure, and it will also have some support from the Eastern States where State aid has paved the way for national aid. I can't see how any man representing a rural constituency can vote for a river and harbor bill and refuse to vote for my bill. And I don't see how any one who wants the rural free mail delivery extended in his State or district can refuse to support a measure to aid in improving the roads, for bad roads are almost the sole obstacle to such extensions. I am hopeful of getting the bill up for discussion in the House early in the regular session."

The good roads cause already has a host of friends and no enemies. As soon as all the friends of this bill go to work and make their wishes known to their Representatives in Congress the bill, or one embodying the same principles, will be enacted into law.

## Another Recent Subscriber Satisfied.

TO THE EDITOR:—I have been a subscriber to your valuable paper for over a year and it is a welcome visitor each week. I must say it is a most valuable paper and should have a large circulation among fruit growers and general farmers.

Tulare county. J. G. BAKER.

## An Instance of Growth.

It is a pleasure, in this day of great industrial combinations, to note an instance where an independent concern has attained to mammoth proportions, and has grown steadily but surely for years from a small beginning into the fullness of the present time. Such an institution is cited in the seed business of D. M. Ferry & Co., who for nearly half a century have gone forward each year, constantly adding new customers and retaining all its old ones, until it is to-day the source of seed supply from which the great crops of this country spring. Seed houses have come and gone—some survived and flourished for years, but finally succumbed for one reason or another—while Ferry's kept growing all the time. Thousands of farmers, gardeners and flower growers look to them year after year for the seeds from which the prosperity of their fields and gardens is to grow, and the fact that they are never disappointed in Ferry's seeds is the secret of the wonderful expansion of this popular firm. You can buy their seeds in every town and hamlet of this land, and you are always certain that they are fresh, true to name and sure to grow. Their 1904 Seed Annual, a valuable guide in the selection of the proper seeds to plant, will be sent free to all readers of the PACIFIC RURAL PRESS who apply to D. M. Ferry & Co., Detroit, Mich.



## SKUNKS, HORSE HIDES and CATTLE HIDES

and all other kinds of Raw Furs bought for spot cash. 10 to 50% more money to you to ship to us than to sell at home. Write for price list and market report. HUNTERS' and TRAPPERS' GUIDE \$5.00. Book, 300 pgs. cloth bound. Illustrating all fur animals. All about trapping, trappers secrets, kind of traps, decoys, etc. Special price \$1. to Hide and Fur Shippers. ANDERSCH BROS., Dept. 841, Minneapolis, Minn.

Telephone Main 199.

## BLAKE, MOFFITT &amp; TOWNE, DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

## BETTER THAN UNITED STATES BONDS



## ARE GOOD COWS AND A U. S. CREAM SEPARATOR

They bring an owner an annual dividend of 100 per cent. on each cow.

Try the Combination and Prove It!

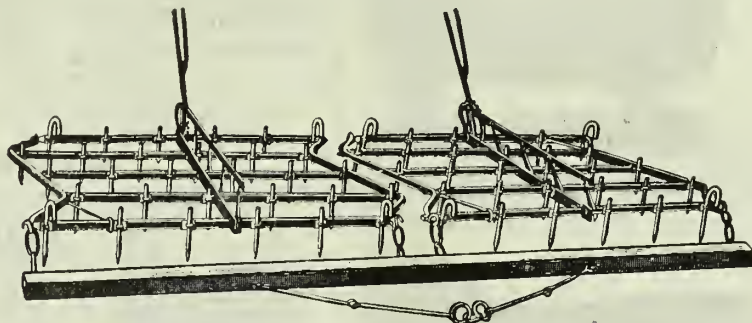
A \$40 Cow and a U. S. Separator will earn \$40 in one year

Our catalogues will explain why the U. S. is the best; write for one.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., BELLINGS FALLS, VT.

Hooker & Co.  
16 & 18 DRUMM ST.  
SAN FRANCISCO.



## Orchard Lever "U" Bar Harrow with Channel Frame.

For orchard work we furnish guard rails on outer sides to prevent injury to trees.

## THE STRONGEST ORCHARD HARROW MADE!

Hooker & Co.

16 & 18 DRUMM ST., SAN FRANCISCO.



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping strainer clean. No burning of foliage as it stirs thoroughly. Throws finest spray, and works the easiest. All working parts are of brass. Specially Adapted to Distillate Emulsion. We publish a booklet entitled "When to Spray and Why," and mail it free to all interested inquirers. Write for a copy.

Made only by FIELD FORCE PUMP CO., Lockport, N. Y.

California Spray Pump Co., Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

## NATIONAL WOOD PIPE CO.

## WOOD PIPE. Woodward Patent Machine Banded. Wheeler Patent Continuous Stave.

Los Angeles Office: 6th and Mateo Sts.

San Francisco Office: 301 Market St.

A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!

## MOTOR VEHICLE CO.

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

Hooker & Co.  
16 & 18 DRUMM ST.  
SAN FRANCISCO.

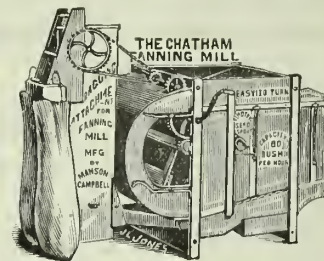
Not to be compared to the ordinary Fresno Scraper offered on this coast. Heavier material, stiffer and superior construction. Runners in back of hawl.



"Fresno" Improved Scraper.

3½-foot, 4-foot and 5-foot.  
Send for Catalogue.

HOOKE & CO. SAN FRANCISCO.



The above cut represents the "Famous" Chatham Fanning Mill with Sacker Attached, which won the First Prize at the State Fair, Sacramento, Cal., this fall.

## Clean Your Grain for Seed.

Foul seeds and cracked grain require just as much time to put into the ground and just as much room in the ground.

This machine will clean any kind of grain, taking out all foul seeds, separating oats from wheat, cleaning and grading barley, cleaning alfalfa. We have special screens for cleaning all sizes of beans. Over one thousand of these Fanning Mills now in use in California.

Send for one of our beautiful circulars, telling you how to make "Dollars Out of Wind."

We pay all freight.

GEO. W. FOOTT,

General Agent, VENTURA, CAL.

## OUR SALES IN 1903 OVER 3,000,000.

TRY THEM--WE GUARANTEE SATISFACTION.



PRICE, STANDARD SIZE, \$17.50 PER M.

A Cheap, Effectual and Permanent Method of Propping Trees.

Cheaper than driving staples in the limb, and no possible damage to tree.

Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

HOYT'S TREE SUPPORT CO.  
WATSONVILLE, CAL.

Or, R. M. TEAGUE, San Dimas, Cal.  
Distributor for Southern California.



## THE ARNDT Tree Protector!

A perfect, inexpensive protection against all creeping and crawling insects. Agents Wanted Everywhere. WRITE AT ONCE. Michigan Cut Flower Exchange. WM. DILGER, Mgr. Sole Distributors, DETROIT, MICH., U. S. A.

## WANTED, SMALL OR LARGE SECOND-HAND OLIVE CRUSHER.

Address F. M. ROESSLER, FRESNO, CAL.



**BREEDERS' DIRECTORY****HORSES AND CATTLE.**

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard. 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. C. JERSEYS.** Service bulls of noted strains. Joseph Maillard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SANE & SON,** Lick House, S.F. Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

**SWINE.**

**THE SAN GABRIEL VALLEY HERD OF** Ohio Poland-Chinas won 10 premiums at the State Fair at Sacramento in 1903; won gold and silver medal. Young stock for sale. W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Suc's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

**POULTRY.**

**BARRED P. ROCKS,** F. Fisher, Carlsbad, Cal. **BUFF** Orpingtons, Sunbeam Yards, Carlsbad, Cal.

**SAMUEL M. COPPIN,** Cottonwood Farm, via Pleasant Grove, Cal. Choice fowls.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$60.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

**SHEEP AND GOATS.**

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

**BREEDERS' SUPPLIES.**

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in every description. Send for catalogue—FREE.

**Poultry Supplies**

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

**California's Finest Holsteins**

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records. Young Bulls for sale.

**PIERCE LAND AND STOCK CO.,** No. 14 Turk Street, San Francisco, Cal.

**BUFF COCHINS. SILVER GRAY DORKINGS.**

Only highest quality. First prizes won at several shows. Eggs \$2.00, express prepaid. White fantail pigeons. **HARRY MCINTIRE,** San Diego, Cal.

**LIVE OAK STOCK FARM,**

Six Miles N. W. from PETALUMA, on the Petaluma and Sebastopol Road.

**FRANK A. MECHAM, Prop.**

Importer and Breeder of

**Red Polled Cattle.**

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.



**FRANK A. MECHAM,**

Importer and Breeder of Shropshire Sheep.

They were all imported from England, or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep, without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder,**

Shipping Points: PETALUMA AND SANTA ROSA, SONOMA CO., CAL.



There are DOGS and DOGS.

If you want the BEST get

Thoroughbred Scotch Collies

**TOKAYANO KENNELS**

Colfax, Placer Co., Calif.

**FOR SALE.**

**Dairy-Bred Shorthorn Bulls.**

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. **J. W. McCORD,** Hanford, Cal.

**FOR SALE,**

**One French Draft Stallion,**

Age, 7 years; color, bay; weight, 2200 lbs.

ADDRESS BOX 345, VACAVILLE, CAL.

**Must Hatch Incubator.**

Send for 1904 Catalogue D if interested in poultry raising—40 pages of valuable information FREE.

**MUST HATCH INCUBATOR CO.,**

PETALUMA, CAL.

**Seeds, Plants, Etc.****Burbank's New Productions.**

Phenomenal and Mammoth Blackberry Plants. Primus and Dewberry (May's Hybrid and Lucretia).

WRITE FOR PRICES.

"FAIROAKS BERRY FARM," FAIROAKS, CAL.

**WAGNER'S NURSERY,**

Pasadena, Cal.

Is offering the cleanest and best line of Citrus Trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata Root you insure yourself better crops and no injury from frost. Also full line of other Fruit Trees and Berry Plants. Drop us a card if interested. Telephone Suburban 108.

**OAK MOUND NURSERY,**

Lakeport, Cal. **ROBT. P. EACHUS, Prop.**

I have to offer, retail and wholesale, BARTLETT PEAR TREES, one year old, 4 to 7 feet, on whole roots as good as can be grown. A few hundred first-class APPLE TREES, also MAMMOTH and LOGAN BERRY TIPS, WELL ROOTED VINES.

Write for Prices!

**PHILLIPS CLING**

and other Nursery Trees at

REDUCED PRICES!

**THE CROCKER BARTLETT PEAR**

a specialty!

L. L. CROCKER, 320 River Street, Santa Cruz, Cal.

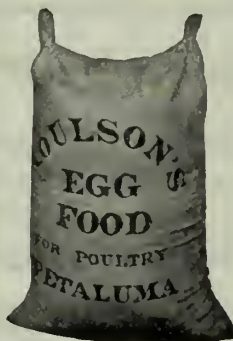
**RIVERSIDE NURSERY,**

5000 Apple Trees, \$10 per 100.

4 to 6 ft.; Extra Well Rooted; Clean; Grafted on Whole Roots and Free from All Pests.

Yellow Bellflower, Y. N. Pippin.

Refer to City Bank, Santa Cruz. **HENRY SHAW.**

**PROFITS FROM POULTRY**

Depends Upon How and What You Feed.

Coulson's Egg Food, a balanced ration or ready mixed feed for laying hens, is what makes the hens lay lots of eggs; and now that eggs are bringing a good price you should purchase a ton or two of this feed and make some money out of your hens this fall.

When you start to raising little chicks, try feeding them Coulson's Chick Food and see them grow. Coulson's Chick Food is a mixture of 14 different grains, seeds and meals, machinery mixed and proportioned so as to meet all the needs of growing little chicks and to fully nourish them.

125 AGENCIES IN CALIFORNIA. Send address for Illustrated Catalogue and Poultry Account Book, Free.

**A. R. COULSON CO., Inc., Petaluma, Cal.**

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the BEST

MANUFACTURED BY

**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

**California Fruits.**

NEW EDITION (3rd). LARGELY REWRITTEN.

By **PROF. E. J. WICKSON.**

Price \$2.50, Postpaid Anywhere.

**CALIFORNIA VEGETABLES**

IN GARDEN AND FIELD.

By **PROF. E. J. WICKSON,** Author of "California Fruits."

The only book published on Vegetable Growing in California.

Price, \$2.00 Postpaid

**PACIFIC RURAL PRESS, Publishers,** 330 Market St., San Francisco, Cal.

**BULLS FOR SALE.**

Registered and High-Grade SHORTHORNS.

All inoculated for Texas Fever, at OHOWOHILLA STOCK FARM.

Address... **ISAAC BIRD,** Merced, Cal.

**BERRY PLANTS**

Logans, and Gray's Gardena Dewberries SPECIALTIES.

These Dewberries have produced over 5 tons of fruit on 1/2 acre. For descriptive list, address

**W. J. EMBREE,** Rural Box 61. El Monte, Los Angeles Co., Cal.

**WE MAKE A SPECIALTY**

—OF THE—

GENUINE COMMERCIAL

**Smyrna Fig Tree.**

Our price is \$15.00 per 100; smaller lots, 25c each.

We also have a large stock of Muir and Phillips Cling Peaches, Royal Apricots and Bartlett Pears, which we will sell at low figures. Send list of your wants and get our price.

**MAYWOOD COLONY NURSERY,**

**W. HERBERT SAMSON, Prop.**

**NAPA VALLEY NURSERY CO.**

INCORPORATED 1902.

**Fruit Trees and Grape Vines,**

Resistant Rooted Stock,

**RUPESTRIS ST. GEORGE, GLOIRE MONTPELIER**

**LOGAN BERRIES, MAMMOTH BLACKBERRIES** and other small Berries.

Write for Price List!

**NAPA, CALIFORNIA.**



## Seeds, Plants, Etc.

### BARGAINS IN BERRY PLANTS

100,000 on hand. Price 2 cents each. Lawton Blackberry and Cuthbert Raspberries, \$5.00 per M. Loganberry tips, \$15.00 per M. Address T. E. BARLOW, Sebastopol, Cal.

Blue Gums, Red Gums, Monterey Pines, Monterey Cypress,

ALL IN FINE SHIPPING CONDITION; TRANSPLANTED IN BOXES OF 10 EACH.

Our stock is very large. Write for prices, stating quantity wanted, delivered at San Francisco.

W. A. T. STRATTON, PETALUMA, CAL.

## Berry Plants.

STRAWBERRY {MALINDA, BRANDYWINE.

LOGANS,

MAMMOTH BLACKBERRY,

LAWTON BLACKBERRY,

RED RASPBERRY (Cuthbert),

"PRIMUS" BLACKBERRY,

Something new. Fruiting season earlier than any other Blackberry. Money maker. Bushes incline to trailing habit. Send for descriptive circular.

Address O. O. EATON, Watsonville, Cal.

ESTABLISHED 1876.

THE

## Myrobolan Nursery

JAS. O'NEILL, Prop.

Haywards, Alameda Co., Cal.

Grower of the Leading Varieties of

## Deciduous Fruit Trees.

No Irrigation,

Free from Borers, Other Pests or Disease.

Specialty: Apricots and Prunes on Myrobolan Root.

Estimates Furnished on all Lists.

Inspection of Stock Invited Before Purchasing.

Correspondence Solicited.

## FERRY'S SEEDS

MEET ALL NEEDS

Experience has established it as a fact. Sold by all dealers. You sow—they grow. 1904 Seed Annual postpaid free to all applicants.

D. M. FERRY & CO. DETROIT, MICH.

## GREGORY'S SEEDS

Famous for nearly half a century for their freshness, purity and reliability—the safest, surest seeds to sow. Ask anyone who has ever planted them. Sold under three warrants.

Send to-day for free catalogue.

J. J. H. GREGORY & SON, Marblehead, Mass.

## BLUE GUMS. RED GUMS.

Monterey Cypress—Transplanted in Boxes.

WRITE FOR PRICES.

Delivered on Wharf in San Francisco.

W. A. REINHOLDT, Petaluma, Cal.

## SEBASTOPOL NURSERIES

is the place to get

Aphis Resistant Apple Stock,

Also

General Assortment of Nursery Stock.

SEND FOR PRICE LIST.

T. J. TRUE, Prop., Sebastopol, Cal.

## TREES.

WALNUT AND APRICOT,

SELLING FAST.

We carry a full line of all leading varieties of Citrus, Deciduous and Ornamental Stock.

Get our prices before buying. Price list free.

Orange County Nurseries,

RICHMAN & MILLS, Proprietors, FULLERTON, CAL.

## COX

SEED CO.

411-413-415 Sansome Street, San Francisco, Cal.

## BULBS

Now is the time to plant

HYACINTHS, TULIPS, NARCISSUS,

SPANISH IRIS, RANUNCULUS,

ANEMONE, ETC.

Send for our Bulb Catalogue.

## CITRUS TREES

That will grow, bear profitable crops, and are true to name, are the only kind that we propagate. Thirteen years in the citrus nursery business—hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture free; send for a copy.

SAN DIMAS CITRUS NURSERIES

SAN DIMAS,

R. M. TEAGUE CAL.

## CHICO NURSERY CO. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS, BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get swamped with work next spring?

CHICO NURSERY CO., 1200-3rd St. Chico, Cal.

## OREGON NURSERY CO.

SOLE PROPRIETORS AND INTRODUCERS OF BURBANK'S NEW PLUM-MAYNARD

THE GREAT FROST-RESISTING TILTON APRICOT

Also the most complete line of Deciduous Fruit, Shade and Ornamental Trees, Shrubs, Plants, etc., on the Pacific Coast. See our Traveling Salesman, or write for complete catalogue and price list. Address

SALEM OREGON

No. 6, 12th Street.

## TREES FRUIT and ORNAMENTAL SHADE TREES for STREET and ROADSIDE.

Olives, Oranges, Lemons, Grape Vines, Resisting Vines.

NUT TREES JORDAN ALMOND, CHESTNUT, WALNUT AND PISTACHIO NUT.

Complete Stock of Large Palms, Evergreens, Roses, Climbers and Flowering Shrubs.

New Catalogue of 72 Pages Mailed Free.

CALIFORNIA NURSERY CO., Niles, Cal.

JOHN ROCK, Manager.

## TREES. APPLE, CHERRY, PEACH, PLUM, PRUNE, APRICOT.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY, STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

## BULBS FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

TRUMBULL & BEEBE,

Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.

## Citrus Trees.

Our stock of Orange, Lemon, Pomelo and other Citrus Trees is worthy of your thoughtful consideration. This season's stock is very uniform, clean and thrifty. We are always glad to answer questions from intending planters.

Finest and most complete Nursery Catalogue published mailed for 5 cents postage.

Fancher Creek Nurseries, Inc.

Box 18, FRESNO, CAL.

GROWERS OF TREES AND VINES OF ALL SORTS.

## Fresno Nurseries.

ESTABLISHED 1889.

SPECIALTIES---DECIDUOUS FRUIT TREES AND ROOTED VINES.

APRICOTS, on Apricot, Peach and Myrobolan roots.

PEACHES, on Peach and Almond.

PRUNES, on Almond, Myrobolan, Peach and Apricot.

ALMONDS, on Peach and Almond.

NECTARINES, APPLES, CHERRIES, PLUMS, PEARS, FIGS, ETC.

ROOTED VINES—Wine, Table and Raisin Varieties.

We Have the True Commercial Smyrna Fig.

SEND FOR PRICE LIST AND CATALOGUE.

Address

FRESNO NURSERIES, F. H. WILSON, Proprietor.

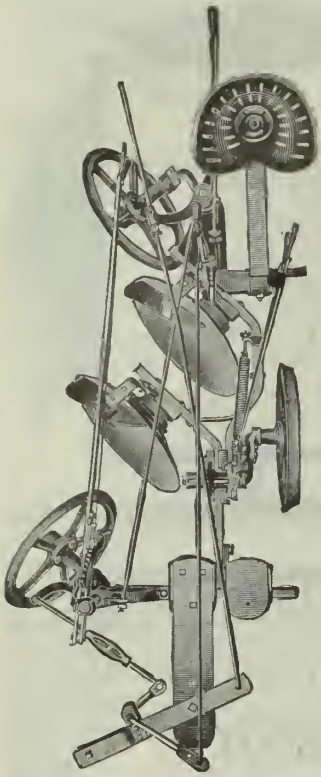
P. O. BOX 42, FRESNO, CAL.

FOR SALE, Choice Tulare and Summit Lake ALFALFA SEED

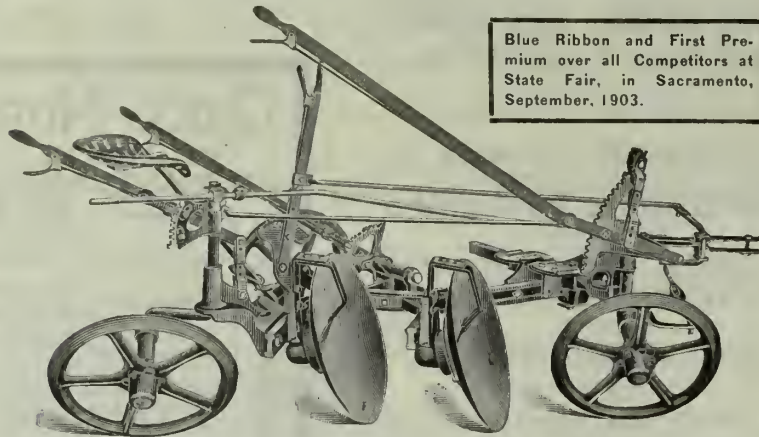
Samples and prices granted on request. KUTNER-GOLDSTEIN CO., HANFORD, CAL.

ROCKY FORD CANTALOUPE SEEDS. Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK Rocky Ford, Colo.





LA CROSSE DISC PLOW.  
Orchard Style --Top View.



LA CROSSE TWO-DISC PLOW (Field Style).

We can supply 1-2-3-4-5 or 6-Disc Plows.  
Notice the perfect land guage and leveling lever  
on rear wheel.

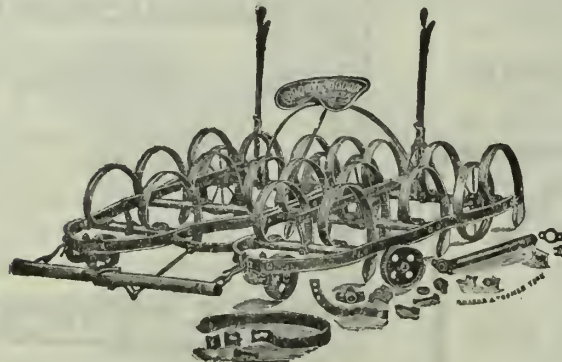
Blue Ribbon and First Premium over all Competitors at State Fair, in Sacramento, September, 1903.



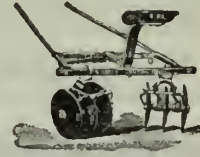
"Canton Clipper" 2-Furrow Gang Plow



"Canton Success" Sulky Plow.



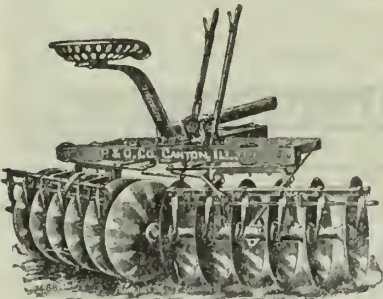
"York" Spring Tooth Lever Harrow, with Wheels.



"Canton" Pony Disc Harrow

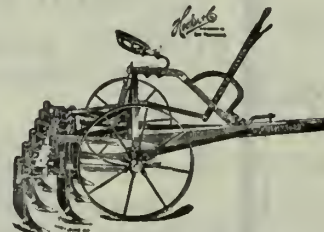


No 38--"H & B" Pony Orchard and Vineyard Gang Plow.



"Canton" Reversible Disc Harrow.

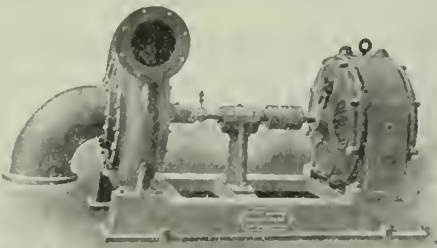
**HOOKE & CO.**  
16 & 18 DRUMM ST.  
SAN FRANCISCO.



"Canton" Orchard Cultivator



"Kentucky" Disc Drill, Steel Frame.



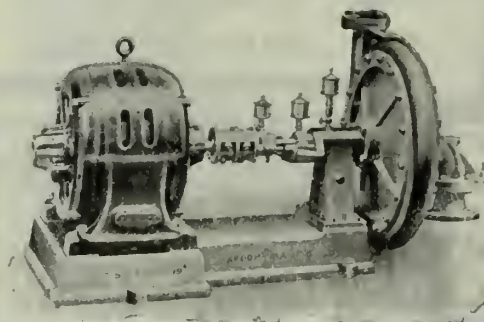
Jackson Patent Special Horizontal Centrifugal Pump Direct Connected to Motor.

## WONDER OF THE AGE.

JACKSON'S LATEST IMPROVED CENTRIFUGAL PUMP for raising water from 10 feet to 2000 feet. Efficiency 70 to 84%, if properly installed.

For irrigating, reclamation, mining, etc.

BYRON JACKSON MACHINE WORKS,  
411 Market St., San Francisco.



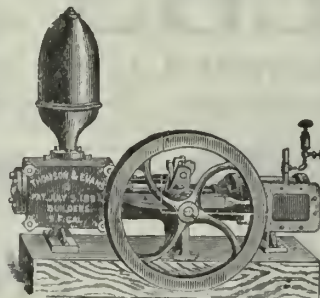
## TRIED AND TRUE KROGH PUMPS.

First and last and always best for all kinds of work. Send for our Catalogue "L." Address KROGH MANUFACTURING CO. 519 Market Street. San Francisco.

## C. H. EVANS & CO. MACHINE WORKS.

Thompson & Evans  
Steam Pumps.

DEEP WELL AND  
POWER PUMPS.



Marine Engines

SHIP and STEAMBOAT  
WORK  
Pipe Cutting, Etc.

183-185-187 Fremont St.  
San Francisco.

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

TAKES THE PLACE OF SHINGLES, TIN, IRON, TAR AND GRAVEL, and all prepared roofings.

For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reasonable in cost. Sold on merit. Guaranteed.

It will pay to ask for prices and information.

THE ELATERITE ROOFING CO.,  
713 Market Street, San Francisco.

**GREENBANK** BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

FRANCIS SMITH & CO.,  
Manufacturers of

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., All Sizes.  
83 FREMONT STREET, SAN FRANCISCO. CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making pipe.

Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

IF You vaccinate your stock,  
You contemplate vaccinating,  
You desire information about vaccines,

## WRITE US.

OUR VACCINES ARE THE LOWEST PRICED, RELIABLE GOODS ON THE MARKET.

The United States Vaccine Company, Inc.

Kirke, Geary & Co., Sacramento.  
Western Wholesale Drug Co., Los Angeles.

FRESNO, CAL.

**Black Leg Vaccine**  
**PASTEUR VACCINE CO.** CHICAGO  
SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 25.

SAN FRANCISCO, SATURDAY, DECEMBER 19, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

### Petaluma Poultry Industry.

That truth is stranger than fiction is deeply impressed on the judicious observer who visits Petaluma for the first time and takes note of the wonderful magnitude of the poultry industry in that portion of beautiful Sonoma county.

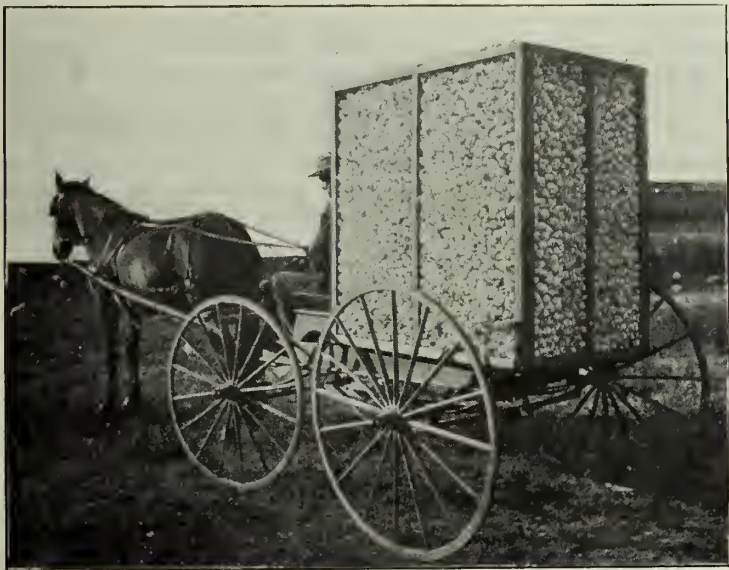
Twenty-six years ago Mr. Byce, now president of the Petaluma Incubator Company, settled in the quiet country village up the creek and determined to make it the greatest poultry center in the world. Working alone at the carpenter's bench, he began the manufacture of the machines which have now become so justly famous. At that time there were few fowls in the State, and these only in small flocks and in widely separated localities. The Petaluma Incubator Co. and the Must Hatch Incubator Co. now ship machines to all parts of the American continent and even to the Old World and the islands of the Antipodes. Last year the first-named firm manufac-

Wonderful have been the achievements of the little white hen. She has changed the business methods of Petaluma from the loose and uncertain credit system to a strictly cash basis. She has built up hundreds of happy farm homes and has made Petaluma one of the most solid business towns of the West. It is a matter of undisputed figures that she brings to the locality \$1,500,000 a year.

Mr. Snow, editor of the Poultry Journal, has tabulated figures showing the export of eggs and poultry from Petaluma each week during the present year. For the first four months over 1,500,000 dozen, or more than

Burke and others hatch chickens all the year round. The capacity of Mr. Burke's incubators is 15,000 at a time. Last year the number of birds hatched and raised on his Buena Vista ranch aggregated 52,000.

Grounds, yards and houses are important in poultry raising, but proper feeding is, without doubt, the most important problem of all. To do her best the hen must be supplied with all the elements that are



Shells of 43,500 Eggs Hatched at Petaluma by "Must Hatch" Incubators.

tured and sold 5000 incubators. Mr. Byce's dream has been realized. The entire country surrounding Petaluma teems with chickens, nearly all white. The "ranches" are all small—usually consisting of five or ten-acre tracts. The number of fowls owned by each farmer ranges from 500 to 8000. Climate, soil, locality, price of feed and access to market all contribute to the success of the industry, and hundreds of men are establishing themselves on little ranches, with the assurance that financial independence waits on intelligent management, industry, cleanliness and perseverance.

18,000,000, eggs were shipped out of the town. At the same rate for the other eight months, the total shipment of eggs would be over 54,000,000 for the year.

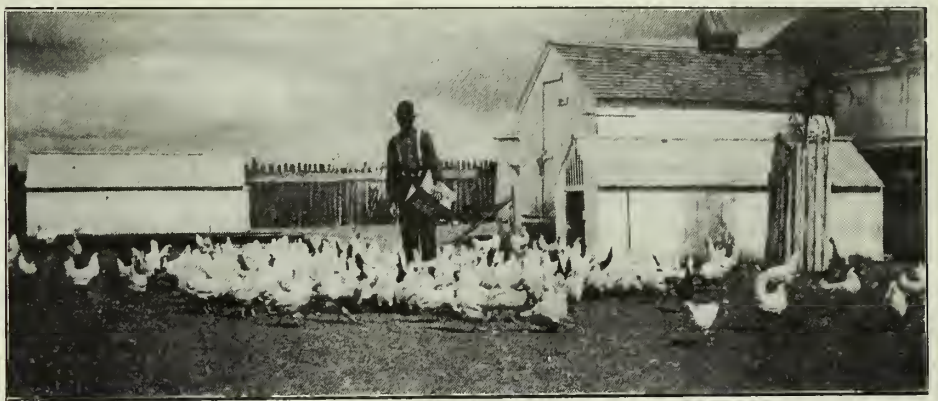
One hundred and sixty eggs per year is a fair average for a hen, and 25 cents per dozen an average market price the year around. From this it is easy to estimate the income of a ranch with 5000 chickens. Besides the enormous number of eggs, it is estimated that the shipments from Petaluma of fowls for table use will this year reach a quarter of a million in number.

The favorite hatching season, of course, is in the early summer months, but A. E.

required for egg production, and the growing chicks with all the essentials necessary for their healthy growth. Some years ago A. R. Coulson, who had made careful study of the question of feeding, began in a small way to prepare a balanced ration for laying hens and a mixed food for growing chicks. So successful have these foods proven that to-day Coulson's poultry supply house is one of the best known establishments on the coast. The twenty different ingredients for these balanced feeds are of the best, and are purchased in carload lots. Between 250 and 300 sacks per day are mixed with electric machinery in his rapidly growing establishment. Not only does he supply poultry raisers in the environs of Petaluma, but shipments of his feed are made to all parts of the State.



Hillsides Dotted With White Houses and White Chickens.



Breakfast Hour on a Petaluma Poultry Ranch.



Factory Turning Out 5000 Incubators and Brooders Annually.



Loading Cars With Coulson's Poultry Supplies at Petaluma.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers  
E. J. WICKSON Horticultural Editor

SAN FRANCISCO, DECEMBER 19, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Shells of 43,500 Eggs Hatched at Petaluma by "Must Hatch" Incubators; Hillside Dotted With White Houses and White Chickens; Breakfast Hour on a Petaluma Poultry Ranch; Factory Turning Out 5000 Incubators and Brooders Annually; Loading Cars With Coulson's Poultry Supplies at Petaluma, 385.

EDITORIAL.—Petaluma Poultry Industry, 385. The Week, 386.

QUERIES AND REPLIES.—Pruning Apricots; Bermuda Grass; Growing Loganberries; Red Spider on Apple Trees, 386. Prune on Almond—Thompson's Navel; Almond Growing; Foothill Suggestions, 387.

WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Dec 14, 1903; Temperature and Rainfall, 387.

ENTOMOLOGICAL.—New Observations on the Codlin Moth, 388.

FRUIT MARKETING.—The Year's Deciduous Fruit Shipments, 389.

AGRICULTURAL REVIEW.—391.

THE HOME CIRCLE.—Overcareful Housekeeping; Japanese Seamstresses; Beds for Invalids; Bad Teeth; Hints to Housekeepers, 392.

THE MARKETS.—Produce Market; Fruit Markets, 394.

FORESTRY.—Government Work in California, 396.

PATRONS OF HUSBANDRY.—Tulare Grange; At the National Grange, 398.

MISCELLANEOUS.—Weather Conditions, 387. Arctic Chicken Ranch, 390. Pioneer Cattleman, 396. Curing Small Skins, 398.

## The Week.

The northern and central parts of the State are receiving a generous wetting as we go to press, and it may reach into southern California if the cyclonic action holds out. We can see from our window the storm signals flying, promising heavy southeast winds, so there are good chances for a wider rain area.

Christmas preparations are proceeding very actively in the city, and the customary holiday trade is on with good force. It promises to be a very merry Christmas all around.

The weather dulls the produce markets. Spot wheat is unchanged, but futures are off 5 cents per cental or more, Eastern and foreign. No charters have been drawn and only one ship, of wheat and barley mixed, has gone out. Barley prices hold well for spot, but futures are off. Oats are firm and earn steady, but other lesser grains unchanged. Beans are quiet with pink beans still leading. Alfalfa seed is scarce and high. Bran is easy and all millstuffs are weak in tone, but not lower. Hay is also weak, but is held up as it is about all in second hands. Meats are the same as before; receipts of hogs are light, but packing is light also. Butter is falling and cheese unchanged. Eggs are lower. Poultry is rather weak, but receipts are less and the demand is catching up. Large chickens, ducks and geese are firmer. Turkeys are still in good shape and a 25c Christmas market is looked for, though there are considerable receipts expected from distant points. Choice potatoes are firm and held in second hands largely; common potatoes are selling at concessions. Sweet potatoes are in large supply and lower. Onions are easy and quiet. Fine apples hold values well. Pears are selling fairly out of storage and grapes are still coming in. Good quality persimmons are going well in a small way. Oranges from Butte county are being bought here for Los Angeles trade. The best lemons are steady. The wholesale trade in dried fruits is slow. More prunes are going abroad—144,000 pounds to Holland, 85,000 pounds to Germany. The Australian steamer took 48,000 pounds dried fruit and 39,000 pounds raisins, while to British Columbia 29,000 pounds dried fruits and 15,000 pounds raisins have gone out. Almonds are in light stock and in the jobbing trade. Honey is quiet, with heavy stocks of amber. Some heavy sales of hops are noted in the country; rates are firm for the best, the poor being neglected. Wool is still lifeless.

The Fruit Growers' Convention ran its course at Fresno—rather a notable meeting on the whole, and a number of valuable papers presented, as will ap-

pear by watching our columns. Two significant incidents occurred: one was a protest against the pessimistic spirit which some speakers indulged in, the other a protest against giving so much time to rather heated discussion to trade features and too little time to horticultural sciences and arts generally. That the fruit growers as a class do not carry their chins on their waistcoats was shown by the effort of General Chipman to ascertain whether the growers really thought the business was going to the "demnition bow-wows." He said when he had entered the hall he found the air laden with pessimism. He asked pointedly if the growers were producers or destroyers. He characterized the talk of overproduction, the publication of discouraging statistics about fruit growing, as unwise and untrue, and introduced the following resolution:

Resolved, That it is the sense of the California Fruit Growers, in convention assembled, that the fruit growing industry of California is in a general satisfactory and prosperous condition.

The resolution was overwhelmingly adopted; in fact only one man stood in opposition to it, and he is a man who is becoming famous for doing all the planting he can, while urging others not to plant. This ought to be the last of this sort of thing.

The other thing which is significant is that the conventions seem to be losing popularity because too much time is being given to one phase of the industry, and that the transportation and trade end. We do not question the importance of this end, but it is somewhat notable, as we have previously pointed out, that the largest growers of the State do not figure in these endless harangues. They are interested in the subject matter and would like to act together effectively in a business-like way, but they do not enjoy the hysterical and spectacular performances which are put forward ostensibly in their interest. The protest against such arrangement of convention time was made by Mr. A. N. Judd of Watsonville, who submitted a resolution providing for an amendment to the procedure of the next convention, which would indicate that there was a feeling of dissatisfaction because so much time had been devoted to polemics. Mr. Judd's motion was that at the next convention the first three days be given over to the discussion of fruit culture. The resolution was not acted upon by the convention, nor was it necessary that it should be. It would be easy enough to make the meetings more widely interesting and helpful from a horticultural point of view, and then the attendance would improve and the influence of the assembly be vastly increased.

And so we are to have another try at the silk industry in California. C. F. Marlatt of the United States Department of Agriculture, and an expert in silk culture, after traveling extensively throughout the State has conferred with the Italian-Swiss colony at Asti, Sonoma county, regarding the establishment there of a colony of silk workers to engage in the production of silk on a large scale, and it is said that the necessary capital to carry on the enterprise can be raised. But it needs far more than capital. That has been always available and sometimes disastrously used. It needs people who are willing to work for the returns which silk culture will afford. Our own people have declined them several times without thanks. Perhaps the Italians can find inducements in it, but that is still a question. An Italian soon learns, as well as anyone else, when he can do better with his time, and he will probably do it as others have done.

Our big trees are winning friends everywhere and their safety seems more assured. It is telegraphed that prominent Illinois people who have become interested in the Outdoor Art League of America have written to Washington to ascertain the status of the Calaveras Big Tree bill. Among the members of the Illinois branch of the league are Dr. Harper of Chicago University, Judge Peter S. Grosseup, Architect D. H. Burnham and many prominent women. They are heartily in favor of the preservation of the famous big trees of California, and signify their intention to urge their friends in Congress to favor the Gillette and Perkins bills providing for the purchase or condemnation of the two groves in question. The movement is spreading in other States.

## QUERIES AND REPLIES.

### Pruning Apricots.

TO THE EDITOR:—Is it safe to cut back apricot trees now, or is it best to wait until late in the spring? I suppose the proper time would be as soon as the fruit is gathered, but that time comes right during the busy season, and I could not spare the time.—J. G. BAKER, Tulare county.

Cutting back apricots in the summer is generally practiced in the interior, where the tree makes most wood growth, and summer pruning has a repressing effect upon a wood growth, while winter pruning tends to the promotion of good growth. When summer pruning is missed for any reason, or when the tree does not seem to need to be repressed, winter pruning should be done. This can be done at any time—now or later, as is most convenient. The tree does not seem to resent pruning at any time.

### Bermuda Grass.

TO THE EDITOR:—Will Bermuda grass do well on 150 acres I have under irrigation that is of too clayey a nature for alfalfa? Water stands too long on it, and afterwards it gets too dry and hard and cracks open. Probably there is more or less black alkali in it. And would Bermuda grass do well on my seventy acres of bottom land? It is of a sandy nature and overgrown to willows where not cleared up. Water stands too long in the June freshets for part of it to raise alfalfa, and a part of it is too dry.—READER, Merced county.

We do not know any grass that will endure so much drought and alkali and baked soil as Bermuda grass. Australian rye grass will stand the overflow and will endure drought and clay soil, but it will not do much in alkali. Bermuda grass, however, does not make good winter growth, as it is very susceptible to injury by frost, but this does not injure the root, in fact nothing seems to be able to injure the root, and one difficulty with the grass is that if the ground is once filled with the roots they cannot be properly gotten out again. We can, however, recommend Bermuda grass for dry lands, alkali lands, overflow lands, and summer growth where other grasses will fail, but do not put it in unless you want to have it stay there.

### Growing Loganberries.

TO THE EDITOR:—In your book, "California Fruits," you speak of the loganberry and dewberry to be pruned alike, but what is meant by cutting back within about 16 inches from the base of vine—does it mean to cut back laterals or side spurs from the main vine during the summer? Should it be topped back by pinching the ends, same as blackberries? Does the vine die in three years, supposing you keep cutting out old wood each year? My land is mostly clayey, with a sandy loam from 12 inches to 3 inches over the clay. Would Bartlett pears do well in such a soil? The place is  $\frac{1}{2}$  a mile from San Diego bay.—READER, San Diego.

The chief pruning of the loganberry consists in removing all wood which has fruited and retaining that which grows during the previous summer. Sometimes growers pinch off the ends of new shoots early in the summer, when they have run out a foot or so, and this causes the growth of several canes instead of one, and gives more bearing wood within small compass. The canes are not usually pruned much during the summer's growth, and the fruit appears upon short laterals, which push out from the long canes the following spring. It may be that the vine dies after three years in some places, but our experience is quite otherwise, for we have vines in good strength and bearing which have been regularly pruned and cared for for the last seven years. The soil you describe would seem to be well adapted for the plants, providing there is moisture to keep the plant growing late enough in the season to mature strong wood. It would also be well suited for pears, providing your clay is not a hardpan and can be penetrated by the roots.

### Red Spider on Apple Trees.

TO THE EDITOR:—I should like to have your experience and advice as to the best means of controlling the deciduous tree red spider (the "Bryobia") which infests my apple orchard quite badly, and which was seemingly not affected by spraying with 2% distillate emulsion last summer. What winter wash or spray will kill all the eggs, and what summer wash or spray would be best to use in conjunction with Paris green for the codlin moth?—APPLE GROWER.

The fullest information on the treatment of the red spider of deciduous trees is derived from the Univer-



sity experiments last summer, which were quite fully described in our issue of September 5, 1903. We believe that the distillate emulsion will kill the eggs, but that some of them must escape the application. We doubt whether any application will succeed in killing them all, as they are often laid in very inaccessible places. The insect can, however, be kept readily in check by sulphur treatment during the summer time. We do not know of anything which can be combined with Paris green wash for this purpose, but that spray will undoubtedly kill many of the insects which are moving when that spray is applied.

Prune on Almond—Thompson's Navel.

TO THE EDITOR:—Please give advice in regard to grafting prunes on almond orchard trees from five to six years old; also the best method of grafting. Can almonds be grafted on almonds—that is to say where the orchard needs pollenizing? What can you say for the Thompson Improved Navel, also Sugar and Imperial prunes?—ORCHARDIST, Orangevale.

Prunes can be successfully top grafted by the usual method on almond trees, and many almond trees have been thus transformed into prune trees during the last twenty-five years. Almonds can also be grafted on almonds, but it is more common practice to put almond buds in the new growth. Thompson's Improved Navel is highly spoken of by a number of growers in southern California, and has been planted to some extent. It is questionable, however, whether under ordinary conditions it is so desirable as the regular standard Washington Navel. The Sugar prune is quite successful, so far, a good bearer and ripening about three weeks earlier than the French prune. The Imperial prune is less desirable, because it is a later variety and its curing is somewhat difficult.

Almond Growing.

TO THE EDITOR:—I am told that you are authority on the culture of almonds. Is the almond a paying business; the cost per acre for care, and the age that the trees come in bearing and the amount of nuts grown per acre? What do you think of the Antelope valley, Cal., for almonds?—ENQUIRER, Norfolk, Va.

Success in the culture of almonds depends primarily upon location. The tree starts its growth very early in California—sometimes in the latter part of January, sometimes later. This early growth makes it very subject to frost which destroys the blossoms, or the fruit after it has set. For this reason almonds in very many parts of California have been abandoned as unprofitable and planting should be undertaken with great discrimination. There are places in the Antelope valley where almonds are fairly satisfactory, but the growth of the tree in that district is handicapped for lack of moisture, causing small growth of trees and small nuts, even in places where frost does not do harm. The nut, however, is of very high quality, bright shell and desirable. You have to be very careful, however, in making selections in that district just as you do in other parts of the State. As for the cost and profit of the almond, or whether it is a paying business or not, all that depends, as we have said, upon location. Hundreds of acres of unprofitable trees have been made into firewood, or grafted over into prunes, etc. In a good location, with a satisfactory bearing variety, one might count upon twenty-five pounds of nuts to the tree, when over five years old, eighty trees to the acre, which would be a ton of nuts, which at this moment are worth from 8 to 10 cents per pound, or \$160 to \$200 for the acre product. But the average yield through a number of years would not be so high and some growers count the average product as low as ten pounds to the tree, even on orchards which are fairly productive. If one could be sure of this, however, almond growing would be profitable because the care of the tree is not expensive, and probably \$10 per acre would cover it. In a general way we would advise you not to make investments in almond culture without looking closely into the behavior of the tree in any region which you have in mind.

Foothill Suggestions.

TO THE EDITOR:—Kindly help me with advice in regard to improving foothill land. I have about 100 acres of cultivatable land in a flat between foothills, about 1500 feet elevation, with very little frost. We have tomato vines still green and loaded with fruit, and there is very little frost in the spring. I want to improve some of the land this winter into trees

and vines. Would it be advisable to plant Muscat vines (say cuttings)? I have about twenty-five acres that are quite sandy, but seem to hold moisture well by cultivation. I also have a ridge of about twelve acres of heavy red land, deep soil, a little gravelly. What kind of trees would be best to plant? I can not, as yet, irrigate it. How would almonds do? I should think they could do better than fruit trees without water, and would they pay as well as peaches? I would like to have a variety, such as apples, peaches, almonds, apricots, oranges and lemons, but am a little skeptical, as there are no vineyards or orchards here, but there are fine apple orchards farther up in the mountains. Please advise me what would be the best and second best, etc., tree for me to plant.—FOOTHILL RANCHER, Fresno county.

It is not only a question of what you can grow in your district, but what you can sell to advantage, and this depends upon your distance from the shipping point. You could grow on your irrigated land grapes for table and wine, small fruits, early and late vegetables, but, unless you have local trade, proximity to market or to overland lines for Eastern shipment are the great factors in such undertakings. One would think that unless you are liable to spring frosts you could grow mountain Muscat grapes to good advantage on your lower land, which retains moisture, but you will still have to determine whether there would be moisture enough remaining in the soil in the latter part of the summer to give you a good full-sized crop. Usually in the foothills this cannot be done without irrigation. The ridge place of which you speak is, according to common experience, a little too high for almonds to be free from injury by spring frosts. They have been tried in many such places and have not proved satisfactory in bearing. The almond root penetrates very deeply and sustains a tree with a moderate amount of moisture, providing the soil is free and light. It does not do so well on heavy soils likely to retain too much water in the winter time. It would hardly be safe to plant almonds unless you have local evidence that the trees are satisfactory in such a place in your region, and the same is true of apricots; nor would it be at all advisable to undertake peaches without irrigation, for the fruit would be apt to be small. Oranges and lemons would probably be injured by very low temperatures in January and February. The safest proposition would be the hardy fruits, like apples and pears, but whether they would be satisfactory without irrigation depends upon the amount of rainfall and the ability of the soil to retain enough without cultivation for the full growing season of the tree. We feel that we do not know enough about the local rainfall, exposure, etc., to give you definite advice. You will probably have to proceed a little cautiously and determine by observation what are the conditions which prevail in the air and in the soil throughout the year, before planting largely of anything.

Weather Conditions.

[Written for the PACIFIC RURAL PRESS by L. E. BLOCHMAN.]

A month ago, when writing about the weather, the favorable damp atmosphere and lack of the plateau high barometer area justified the prediction of the rains that followed. They did not, however, follow down the southern coast, as we also had anticipated. The storm area entered too far north—from off Vancouver and Washington. This gave the period of about ten days rain in the middle of last month over the central and northern portions of the State only. This has been the only rain period so far for this season over the middle of the State. All the storm areas entering the coast have so far been unusually northerly. That is why we have had so little rain, and none of it south. In the last two weeks the weather has been so set dry that even Oregon has received practically no rains, and the dry condition at present writing shows no immediate signs of phasing.

The fact that over 4 inches of rain fell in San Francisco last month is a certainty that the season on the coast will not be a dry one. In dry seasons no such heavy rains ever fall in the bay latitude. Dry seasons are characterized by a series of light and more frequent rains. On the other hand, we need not expect a wet season when the rains abruptly terminate north of Point Conception.

Is there any precedent of a season affording a large November rain in the bay latitude, and practically none 250 miles south, as at San Luis Obispo this season? Yes; we can cite two of them, and occurring in succession also—1872-73 and 1873-74; the former with a rainfall below average, but not a dry season; the latter a season of average rainfall. In November, 1872, much more rain fell north than in November, 1873, which was the relatively unfavor-

able condition for southern points (2.80 inches in 1872, 1.16 inch in 1873). In 1872 we have to record the fact that absolutely no rain fell in this county or at San Luis until December 23rd. In San Francisco December was dry till the 22nd.

Very little snow has yet fallen in the mountains, showing that the rainy season has not fairly opened for the State generally. When the present droughty condition will give way is a matter of conjecture; but as the whole State is involved in the same condition, when the rain does come, it is likely to break all over simultaneously. A week or more of dry weather may yet be anticipated.

Santa Maria, Dec. 13.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending December 14, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

Sacramento Valley.

Cool weather continued during the week, with heavy frosts and considerable fog. Light rain fell in most sections toward the close of the week. Wheat, oats and grass are in good condition and making rapid growth. Green feed is plentiful, and stock are doing well. The soil is in excellent condition for cultivation, and plowing and seeding are progressing rapidly. No serious injury has resulted from the heavy frosts, but unpicked olives in some places have been rendered unfit for pickling and will be made into oil. Citrus fruits are well colored, and large shipments of oranges continue. Pruning is progressing. Orchards and vineyards are looking well.

Coast and Bay Sections.

The weather continued cool and partly cloudy until near the end of the week, with severe frosts in some places. Light rain fell in the central and northern sections Sunday, and warmer weather prevailed. In the southern interior districts the deficiency in rainfall is becoming quite serious, as feed is very short, cattle are in poor condition and farm work is retarded. In the central and northern sections the precipitation has been more plentiful; the soil is in good condition, early grain is looking well, green feed is abundant and stock are improving. Plowing and seeding are progressing satisfactorily in most places. Tree and vine pruning continue. No material damage has been done by frosts.

San Joaquin Valley.

Generally clear, cold weather prevailed during the week, with some foggy mornings in the northern portion. Heavy frosts occurred frequently, but caused no damage. Plowing and seeding are progressing rapidly in the northern portion, where the soil is in excellent condition. Early sown grain on summer-fallow is up and is a good stand. In the southern portion plowing and seeding are greatly retarded on account of lack of rain. Pruning of orchards and vineyards is progressing. Picking and shipping oranges continue. Olive picking is progressing. Green food is plentiful, and stock are in good condition in the northern part of the valley; in the southern portion green feed is scarce, and stock are thin but healthy.

Southern California.

Clear weather continued during the week and the temperature was nearly normal. Frosts occurred in several places, but caused no damage. The rain at close of the preceding week was too light to be of value to the soil or pasturage except in the coast districts. The high winds reported last week caused considerable damage to oranges in the vicinity of Anaheim. Orange picking is in progress, and large quantities of oranges and dried fruits are going forward for the holiday trade. The soil is very dry, but some farmers have commenced plowing and seeding. Feed is scarce.

LOS ANGELES SUMMARY.—A cold, dry week. Some frost, but not heavy enough to do damage. No suffering yet for lack of rain, but good rains are needed for feed, and to prepare lands and orchards. Irrigation continues as freely as in summer.

EUREKA SUMMARY.—Unusually pleasant weather since December 1st. Plowing is progressing rapidly; large acreage sown to grain which is making good growth. Green feed is plentiful. Shipments of apples are slowly decreasing.

Rainfall and Temperature.

The following data for the week ending 5 A. M. Wednesday, December 16, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka	2.16	16.20	19.66	13.72	64	44
Red Bluff	1.44	9.80	12.02	7.81	62	34
Sacramento	.18	3.70	5.30	5.40	58	38
San Francisco	.14	4.67	5.10	7.47	58	42
Fresno	.00	.64	3.13	2.49	62	28
Independence	.00	.42	.83	1.32	60	30
San Luis Obispo	.00	.44	4.98	5.43	72	34
Los Angeles	.00	.43	4.82	4.16	78	42
San Diego	.00	.40	3.69	1.95	72	44
Yuma	.00	.66	1.47	1.42	72	38



## ENTOMOLOGICAL.

## New Observations on the Codlin Moth.

By PROF. C. W. WOODWORTH, Entomologist of the Experiment Station of the University of California.

During the past summer quite extensive operations have been under way in the Pajaro valley for the control of the codlin moth. These activities were brought about by the action of the Pajaro Valley Orchard Association, who obtained from the supervisors of Santa Cruz and Monterey counties an appropriation amounting to \$2500. Santa Cruz county subsequently made a second appropriation of \$250, and these amounts were supplemented by the further sum of \$175 subscribed by individual orchardists. This money was placed under the control of the Experiment Station to pay the expenses of conducting an exhaustive study of this insect. The desire was expressed that this work should include a careful testing of all the various means that have been suggested for the control of this insect, and in order that this might be done on a large scale many of the growers about Watsonville placed the spraying operations of their orchards under the control of the investigation. Our purpose was to so arrange the work that we could give quite definite directions for the control of the insects another season. At the same time it was desired to accomplish as much as possible during the current season in the control of the pest, without, however, sacrificing the experimental work.

The work was under the immediate control of my first assistant, Mr. Clarke, and several advanced students from the Entomological Department also rendered valuable aid. The mass of data accumulated as a result of this work is too large to present at this time, but will be given in detail in bulletins to be issued by the Experiment Station. I will only attempt to detail a few observations upon that insect which are among the more important additions to our knowledge of the habits of the insect. No insect has been studied more extensively and exhaustively than the codlin moth, but it appears that we are still far from knowing the insect as intimately as would be desired. One point in its life history which remained for a long time entirely unknown was the egg-laying habits of the moth. The commonest conception, and the one which is still found in many of the books on entomology, was that the egg was laid at the blossom end of the apple at about the blooming time, but, curiously enough, this statement was made without a particle of actual observation to support it. I need not go into the detail of the steps in the discovery of the egg-laying habits and the changes made necessary in the theories regarding the reason for the effectiveness of spraying with arsenicals.

**THE EGG LAYING.**—In the Pajaro valley this season the moths did not begin to emerge in numbers until the fruit was of considerable size, and early in the season the eggs were not laid upon the fruit at all. It has been known for some time that many codlin moth eggs are found upon the leaves, as well as the fruit, but no observations previous to those of the present year appear to have been made early in the season. The egg, as many of you are aware, is a flat disc about the size of a pinhead, which is cemented fast to the surface of the leaf or fruit, and is so transparent that the green color shows through and renders it very difficult to see one except when looking for it in the right way. Being cemented to the plant it will be evident that only the smooth surfaces of the leaf or fruit would be suitable for this purpose. Indeed it was extremely rare to find eggs anywhere except upon a smooth surface. Now, early in the season when the first eggs are being laid, the whole surface of the apples and young leaves is covered with downy hairs. A few of the older leaves soon become smooth on the upper surface and it is here that the first eggs are laid. These old leaves may be, perhaps usually are, far away from the fruit, but the most careful search of the surface of the fruit and of the young leaves failed at this time to show any trace of the eggs. Later, but still during the time of the hatching of the winter brood of moths, the underside of the leaf becomes smooth when eggs may be found beneath the leaves, as well as above them, though never as abundant as on the upper side. Finally the fruit itself also becomes smooth, especially on the upper exposed side. As soon as this is the case the moths show a decided preference for the fruit, and while the eggs are still laid in considerable numbers on the leaves, the number on the fruit is out of all proportion to the amount of surface exposed. This preference is maintained throughout the year with the later broods, though the insects never cease to lay upon the leaves, but deposit perhaps a third of their eggs in such situations. The part of the apple last to become smooth is the hollow of the two ends and it is the rarest thing to find eggs in these situations, even after they do become smooth. The commonest place to find the egg is upon the side most exposed, and they are laid here at random without regard to any peculiarity of the apple, and sometimes in considerable numbers. Half a dozen eggs upon a single apple is no uncommon

thing where the moths are abundant, for instance in the neighborhood of packing houses.

**TIME OF EGG LAYING.**—As to the time of egg laying, there seems to be a great difference according to the locality. In some places it is very evidently conditioned upon the weather. One may find, for instance, upon a tree the majority of the eggs in about the same stage of development, indicating that they were laid probably the same day. Apparently this evident periodicity in the laying of the eggs is dependent upon the effect, upon the moth, of weather conditions. Every one has noted that some evenings insects will be extremely abundant about electric lights and that possibly the very next night there will only be a stray insect here and there. It is supposable that the weather condition which affects the moths which we find about lights would also have an equally striking effect upon the activities of the codlin moth, and that unfavorable weather would prevent the laying of eggs sometimes for days at a time. This at least seems to be the most feasible explanation of the practical immunity of one portion of the Pajaro valley from ravages by the codlin moth.

**IMMUNE AREAS.**—That portion of the valley between the city of Watsonville and the sea is apparently free from these insects. In some orchards the codlin moth has been introduced repeatedly upon fruit boxes and has been observable in some cases the succeeding year, but the uniform testimony of the orchardists of that region is to the effect that this slight attack never lasts longer than a single season. One of the characteristic features of the climate of the Pajaro valley are the fogs that float in from the ocean with the afternoon winds, causing a chill in the atmosphere at just the time of the day that the moth would ordinarily be active. And the regions where the greatest evident periodicity in egg laying was observed is immediately adjacent to the immune area. Apparently, in this area showing periodicity in egg laying the conditions are such during most of the time that the moths are prevented from flying, but now and then there comes a day in which they can lay their eggs so that these areas may be nearly as badly infested with worms as though the weather was favorable all the time.

We have two classes of localities free from the codlin moth in California. These interior points, especially among the foothills, where young orchards are isolated from other orchards and which have not yet become infested with the codlin moth; and such areas as this part of the Pajaro valley, where apparently the vicinity of the sea produces a permanent immunity. Such permanent immune areas are found all along the coast from the northern end of this State southward, certainly at least to Santa Barbara county. Judging from the experience in the Pajaro valley, orchards but a short distance inland from the perfectly immune area may be very seriously injured by this insect.

**THE HATCHING.**—There have been very few observations of the hatching process, and I am not aware that there are any detailed published statements in regard to the process of entering the apple. This is a very important matter in the theory of control of the codlin moth. The usually accepted theory is that the worm must receive a poisonous dose before entering the fruit, or otherwise it is beyond the possibility of control. How the destruction of the worm might be brought about through arsenical spraying was first clearly expressed by Professor Slingerhand of Cornell University, who emphasizes the necessity of putting the poison into the blossom cup, in order that the young insect upon hatching from the egg would find awaiting it, in the cup of the blossom end of the apple, a quantity of poison through which it must burrow in order to enter the fruit. Another idea was first brought out prominently by Professor Card of Kansas, now of the Connecticut station. He observed that the young worm very often ate holes in the leaves before finding the fruit, and his idea, based upon this observation, was that the poison placed upon the leaf and outer surface of the fruit was quite important in the control of the insect, perhaps as much so as that in the blossom end. The observations made at Watsonville throw a new light upon this problem of the theory of the effectiveness of the spray. Contrary to the observations made upon this insect in Eastern and Northern regions, a very small percentage of the insects enter the fruit in the blossom end. Of those that might be classed as entering in this place, the majority actually enter the fruit outside of the calyx lobes, instead of getting within the cup.

**THE WORM IN THE CUP.**—There were a few worms, however, that entered the blossom end and which could be killed by the application made according to the directions now most commonly given of placing the poison within the cup. According to our observations, the worm lives quite a while within the cup before attempting to burrow down into the fruit, and will often be found of considerable size and with an appreciable amount of excrement, showing that they have been eating the surface of the cup, and still no trace of a burrow. Apparently they have fed simply upon the surface of the fruit, and have found that the cavity between the calyx lobes offered sufficient concealment to satisfy them, and have not, therefore, been forced to bury themselves to secure this protection. This habit of feeding on the surface within the

blossom cup furnishes the best possible conditions for the efficiency of the sprays applied according to the accepted idea. The blossoming period in the Pajaro valley, and probably in most parts of the State, extends over considerable time, so that the first fruit setting on the tree often becomes as large as a man's thumb before the tree is out of bloom. Long before this the cup is closed; so that if the poison is to be placed where it will accomplish this result there must be more than one application, and the first application must be made while the tree is in full bloom. If delayed until after the majority of the petals have fallen, we have positively determined that in some cases no poison will be placed in any of the fruit, since in these cases none of the late blossoms produced apples.

**POISONED ON THE LEAF.**—Again, there seems to be very good evidence that many of the worms, often those hatching upon the surface of the fruit, may be killed without ever gaining entrance either to the blossom end or any other portion of the fruit. We have never observed the actual feeding upon the leaves in the orchard by the freshly-hatched worms, but have repeatedly made such observations on worms hatched in the laboratory, and it was very evident that the ratio between the number of eggs and number of entrances was very appreciably larger upon unsprayed trees than upon sprayed trees and the only explanation of this difference would seem to be that upon sprayed trees many of the worms would obtain the poison and die, which would otherwise ultimately find an apple and enter the same.

**HOW THE WORMS ENTER.**—By far the greater part of the worms enter the fruit away from the blossom end and the process has been followed with great care, both in the laboratory and in the orchard. The commonest procedure after the worm emerges from the egg is to crawl about the surface of the fruit until finding a satisfactory spot and then to proceed to burrow itself beneath the skin of the apple without tasting a bite of the fruit, simply chipping it off with their jaws and using the particles to aid in forming a protection over the mouth of the burrow. The whole operation, from the breaking of the egg shell until the entire disappearance of the insect, ordinarily does not require more than fifteen or minutes and during the whole time the worm has evidently taken no food, so that it is very doubtful if any of the poison that might be upon the surface of the apple would cause the death of the worm.

**THE PLACE OF ENTRANCE.**—As to the place selected for entrance, there seem to be two classes of localities selected. That which is evidently preferred by the worm is the point where two fruits touch, or where a leaf lies against the fruit. In the orchard the upper side of the fruit was very commonly chosen, generally in the most exposed point. This was apparently due to the difficulty experienced by the worm of walking over the surface of the fruit. Like most caterpillars, the codlin moth spins a small quantity of silk as it walks, and this aids materially in its progress by affording a foothold for the minute claws with which the feet are provided. These claws are so minute that the downy hairs of the young fruit seem to afford even less foothold than is obtained on the smooth surface. Repeatedly in our field observations a young, freshly hatched worm would suddenly lose its hold entirely and fall from the tree. Doubtless a good many worms perish in this way. The front legs are best able to hold on to the plant, so that usually the body would simply swing around, and when the insect had regained its hold it would then climb upwards. Thus an insect would sometimes start time and again to go around an apple and would be brought back to the upper side by slipping, as just described, and finally would proceed to enter the apple on the upper side. A rough surface seems to be preferred to a smooth one, and blotches of lime and poison were certainly not avoided by the worms.

**MAKING AN ENTRANCE.**—In our breeding cage experiments, which were conducted in a wax cell covered by a thin piece of glass, the burrows were invariably made either under the edge of the wax ring or at the point where the cover glass nearly touched the surface of the apple. In this latter case the worm could be observed under the microscope very satisfactorily. It would first make a silken carpet and then spin a series of threads, connecting the glass to the apple, making a strong, but almost invisible, cell for itself, the silken threads being so delicate as to be seen only with the use of the microscope and the proper illumination. After accomplishing this preliminary work the worm would begin the process of excavating a hole for itself, the most difficult part of the operation seeming to be the first breaking of the skin, which would often require a great many attempts before the jaws would tear through into the softer tissues beneath. As soon as the first piece is removed from the surface of the apple the worm fastens it to the silken structure that it has erected about itself, and then another bite is pried off and added to the first, and this repeated until quite a wall of apple chips has been built around the burrow. By this time the worm has made a hole pretty nearly as deep as its body, and finds it necessary to withdraw itself after each bite is obtained. The hole is not dug straight down into



the apple, but somewhat obliquely and considerably larger than the diameter of the insect. It is soon, therefore, able to turn itself about within the burrow and then only pushes its head out far enough to add to the chips already accumulated on the sides, and finally the mass entirely covers over the opening which it has made in the fruit. Up to this time the worm has worked incessantly and the stomach has received none of the material removed from the apple. Shortly after the completion of the burrow, however, the digestive tract is seen to be well filled with chips of exactly the same character, as far as can be observed, as those that were used in the construction of the covering on the outside.

**HOW THE WORMS DIE.**—It would appear from this observation that under the conditions existing at Watsonville by far the larger per cent of the worms gain entrance to the inside of the apple before the poison can reach them. In unsprayed trees it was observed that the majority of the worms died before going deep into the fruit. This is in striking contrast with the history of the worms in the unsprayed trees adjoining. There is no doubt, therefore, that in some manner the poison that was on the surface of the apple reaches the worm after having gained entrance to the fruit. How this can be accomplished can be explained in one or two ways—possibly there is a gradual solution of the arsenical, the material spreading itself over the surface of the fruit and some of it finding its way into the burrow and there being eaten by the worm. One would expect, if this were true, that the worms should show signs of chronic poisoning, rather than be killed outright, which appears to be the case. The second possible explanation is that the worms after entering the fruit get out to the surface again and obtain the poison in larger quantities. According to our observations, this seems the more probable. A single particle of the green would, probably, be sufficient in the young codlin moth to produce violent poisoning. It is a matter of positive observation that comparatively large areas of this surface immediately adjacent to these burrows are eaten off by the insect. This is true both of sprayed and unsprayed trees, and it is only after the insect has increased considerably in size that it penetrates deeply into the fruit. A rather complicated burrow is made immediately beneath the skin of the fruit, and while it lives in this surface-burrow it feeds, in part, at least, upon the surfaces of the apple. It is during this period of surface feeding that the destruction of the worm is liable to happen.

A microscopical study of sprayed leaves shows that the particles of green are really found only at rather distant intervals upon the surface of the leaf and fruit, and, unless the insect feeds over a comparatively large area of the surface, it is difficult to understand how it would obtain the poison in sufficiently large number of cases to account for the efficiency of spraying operations. The surface eaten over, however, by a young codlin moth larva, as described above, is amply sufficient to enable it in most cases to find one or more particles of the poison on a well-sprayed tree.

**PRACTICAL CONCLUSIONS.**—The practical bearing of these observations upon the spraying operations (1) is that they emphasize the advantage of filling the blossom cup in any except in semi-immune areas, like a portion of the Pajaro valley; (2) the importance of covering the whole tree with poison in order to reduce, as far as possible, the number of entranees, since each entrance means a blemish on the fruit; (3) the benefit of continuous work season after season, so as to keep the insects down to as low a number as possible, to further diminish the number of entranees, and finally (4) during the whole period when the eggs are being laid the need of extreme care in the spraying, so as to keep the fruit thoroughly and uniformly covered with poison.

## FRUIT MARKETING.

### The Year's Deciduous Fruit Shipments.

By HON. ALDEN ANDERSON, Lieutenant-Governor of California, and Manager of the California Fruit Distributors at the Fruit Growers' Convention at Fresno.

The first earload of deciduous fruit for the season of 1903 consisted of a fruit express ear of cherries, and was shipped from Vacaville, Solano county, May 9th. The last ear (apples excepted) consisted of grapes, and was shipped from Concord, Contra Costa county, on November 21st.

As will be seen from the accompanying statement, the shipments of this year exceeded those of last year by several hundred earloads, just as the shipments of last year exceeded those of the previous season.

**DISTRIBUTION.**—In the figures given below are included 670 cars of apples. This number does not include all the apples shipped from California, but simply those that have come under the cognizance of this organization in the same proportion as formerly. This fruit was distributed to a total number of 131 cities, being a considerable increase over that of any previous year. In fact, fruit was placed this year in no less than twenty-eight cities that never before received California fruit in earload lots; and while a few

of the cities experimented with last season did not prove satisfactory distributing earload points, and some of those experimented with this year are not yet ready for such shipments, the most of them will develop into regular distributing points. The largest quantity of any one variety of fruit handled outside this organization was grapes, and as the several outside shippers of this variety of fruit generally shipped only to one or two cities, at times there was a relatively greater amount of this fruit in some markets than there should have been. Otherwise there has been a comparative evenness in sales throughout the season in all markets.

**THE FIGURES.**—The following is a statement of shipments for the season beginning May 9th and ending November 21st, in actual ears shipped, and not based on tonnage:

	Cars.
Cherries.....	211
Apricots.....	231
Peaches.....	1,867
Plums and prunes.....	1,145
Pears.....	1,719
Apples.....	670
Figs, quinces, nectarines, etc.....	23
Grapes.....	1,802
Total in 1903.....	7,668
Total in 1902.....	7,136

**CHERRIES.**—The crop of cherries was lighter than last year, but was of good quality and ripened gradually, which made it possible to ship and distribute same in the best possible shape. Sales were very remunerative.

**APRICOTS.**—More apricots were shipped than last year, and as the crop in the early shipping districts was heavy, the quality was not as good as usual. The prices, on the whole, were satisfactory.

**PEACHES.**—There was an increase over the shipments of last year. The earlier varieties were somewhat lighter, and other varieties about normal. The best average net returns ever secured were had this year. This was particularly true in regard to the later varieties, especially Salways, which held up at good prices until the end of the season.

**PLUMS AND PRUNES.**—There were some 250 earloads less shipped this year than last, but during the height of the season daily shipments exceeded those of any single day last season. It required the utmost exertion and care to have the shipments properly distributed to the end that there would be no glut in any of the markets. Later varieties of plums were very short. Prices were very satisfactory.

**PEARS.**—The total number of cars of pears shipped was slightly less than last year, but the main shortage was in the fall and winter varieties.

**GRAPES.**—The greatest increase in any one variety was in grapes, there being 1802 cars, as against 1033 ears last season, the largest previous shipment of this product. Prices, on the whole, were even and remunerative, and netted satisfactory figures. This, in view of the fact that the importation of Almeria grapes was greater than ever before known, is particularly gratifying.

**THE ORGANIZATION.**—The larger portion of the above shipments were handled by the California Fruit Distributors, with headquarters in Sacramento. This organization is composed of most of the principal growers, shippers and co-operative associations engaged in the fruit shipping business. They were organized in May, 1902, and immediately assumed all of the functions and duties of the organization known as the California Growers' and Shippers' Association, together with greatly enlarged powers, duties and responsibilities, their business being not only to give the utmost accurate information in regard to all shipments, etc., but to secure an even distribution thereof to all markets.

Membership in this organization is in no way qualified by the quantity of shipments made. The shipper of one car is given as much consideration as the shipper of a hundred. There are eleven directors, each of whom has a vote in the fixing of policies and the outlining of general business directions. The representation is thus based, not on the volume of business done, but rather on the individuals represented.

**OLD TROUBLES REMOVED.**—Before the organization of the present company, those engaged in the industry labored under many disadvantages that are now eliminated. Competition for business was keen with no regulation of shipments. Each one endeavored as much as possible to keep his business from his competitor, for that purpose billing all their cars to one city, making diversions that they kept to themselves while the cars were en route, with the result, for instance, that a city like Minneapolis, where three cars of peaches might sell at good figures, was at any time liable to have three times that amount sent in by different firms, which would necessitate the selling price being cut to a minimum, while a city like Pittsburg might at the same time be without any fruit, whereas an equalization of the shipments of the two markets would have meant remunerative and satisfactory prices for all concerned.

Then, again, when a market was in good shape and the sale on a ear would bring satisfactory figures, the parties representing different interests in that city would immediately wire out to their shippers in California, "Market in fine condition; advise diversion and immediate shipment of large quantities." The result was that all shippers were liable to take

the same action, and in a few days, instead of having a good market with fair returns, there would be a demoralized market and serious loss. This condition of affairs would shift from one point to another, and the general experience was that where a market on perishable fruits once reached a low point, unless there was a subsequent scarcity of that product, it was extremely difficult to again raise the level of prices to a profitable basis.

The formation of the California Fruit Distributors was not an easy matter. Some firms, because of location or superior packing on their part, or better carrying quality of their fruit, enjoyed advantages not common to others. Some of them believed that if they could keep on with prevailing methods for a short time they could force their competitors out of business, and they then would have the field entirely to themselves, while all the time they would likely be losing money for all concerned.

**HOW THE WORK IS DONE.**—The present general plan of operation of the California Fruit Distributors is as follows: They do not purchase or own a pound of fruit themselves, but simply act as a clearing-house or agency for the different growers, shippers and associations working through them who make their own earload shipments. When a ear is loaded the bill of lading is indorsed over to the California Fruit Distributors and is sent, together with manifest and all pertinent information regarding contents thereof to the company's headquarters in Sacramento. The ear is then disposed of for the account of the party loading the same. Once the bill of lading and the manifest of contents of ear are received, the management aims to place the fruit in the best possible market for that fruit, taking into consideration the variety, its degree of ripeness and general quality, and using their knowledge of the needs, requirements and local or domestic supplies of the different markets, together with previous shipments as a basis of action.

Not only have they complete and accurate information of all shipments previously forwarded, as they make all sales, diversions and apportionments, but they receive telegraphic information daily from all leading centers stating present condition, prospective demands, amount and variety of local supplies, and all other matters pertinent and necessary to the most intelligent distribution of the fruit.

They immediately stopped all private consignments to outside points and determined that all fruits not sent to the East to be sold at auction should be sold on what is known as the "f. o. b. California plan," i. e., that a minimum price for the product should be fixed in California, and a draft for the value of the ear be drawn on the bill of lading and manifest, payable before the delivery of the ear, and that under no circumstances would the price agreed upon be reduced on any shipments, whether sold before going or sold en route, on any shipments leaving California on the same day; the idea being that shippers when sending their fruits to outside points should know just exactly what they were going to receive for their product, and that dealers, if they bought the fruit, would be interested in maintaining prices rather than cutting them; further, that those who purchased the fruit, as long as they had to purchase, would know that their competitors could not buy at a lower price than that at which they could purchase, as it was believed that if buyers could be guaranteed against a decline that the business would be energized and stimulated and a greater distribution of products in the outside markets be had, all of which has proven to be the case.

The distribution of fruit to the auction markets is made with the utmost care and long experience in the business is called upon to direct what fruit should be sent to the different markets and to apportion to each market the relative proper amount of fruit to keep them on a comparative equality, after taking into consideration the difference in the cost of transportation and refrigeration charges to the different points. Were California the only fruit-shipping State the problem of distribution would be much easier, but there are other large fruit-shipping districts, especially in the South, and their fruits come into competition with California products. While this competition may at times interfere seriously with the California fruit, it at the same time shows the absolute necessity of co-operation on the part of those engaged in the industry in California if the best results are to be obtained.

The saving in expense of telegraphing, mail, etc., much more than pays the total expense of the organization. The first season the endeavor was made to direct a part of the distribution from the Chicago office, but it did not work satisfactorily, and this year all of the distribution was directed from the Sacramento office, and the efficacy and wisdom of the action is so manifest and proper that I apprehend no one will question the expediency again or agree to any other action in the future.

**TRANSPORTATION.**—The most serious problem to be solved now is the one of transportation. Little more can be done toward systematizing the selling and distribution or increasing the volume of shipments or taking the very best care of those already shipped until this important matter is worked out satisfactorily. We must have a regular as well as an expedited service, to the end that we can know posi-



tively, barring accidents, just where a car of fruit will be at any given time. About 60% of the shipments are distributed through the auction markets. No fruit is sold in these markets on Saturday or Sunday. Shipments are made from California every day, including Saturday or Sunday. Suppose, for instance, that a certain number of cars were sent to Chicago to arrive on Friday in time for the last auction sale of the week, and the fruit arrived too late to be put on sale. It must remain on the track until Monday with constant deterioration as regards quality, and consequently value, and on Monday other fruit would also be due, making an undue and relatively improper offering. The allotments having all been comparatively made, if the cars that did not arrive there Friday for sale should be diverted to other markets, it would throw the other markets out of balance and the whole scheme of distribution would be upset. Thus, everything depends upon transportation, for it is a well known and undeniable fact that, on perishable products, a day lost is never regained, to say nothing of deterioration and consequent loss on shipments when too long en route.

The most strenuous efforts will be put forth by the California Fruit Distributors to obtain such a service, and, until such a service is had, it will not be felt that the most vital necessity of the business is secured or the next most necessary reform accomplished. Other

reforms and changes will have to be made, but little more can be accomplished until this stumbling block is out of the way. It is only because of the splendid carrying qualities of the California fruits and the intelligent packing and preparing of the same that they have been able to maintain their present position in the various markets, and there is no reason why the industry cannot and should not be maintained upon a permanent, stable, remunerative basis on average results for all seasons.

The past season, by discounting the promised schedule time and figuring upon the probable arrivals in the several cities based upon the actual time being made, very fair comparative results were attained. There were no gluts or comparative oversupplies in any of the markets, and the net returns were fairly satisfactory. How much better they would have been with better time can only be estimated.

**THE FUTURE.**—Thus far, out of diverse interests, secrecy and undue competition, has come a measure of order, system, stability and satisfactory returns; and while to favorable conditions in the East might be attributable a part of the result, it cannot be wholly so attributable, because never before in the history of the business has there not been times of glutted markets and red-ink returns from some of the distributing points, and besides the shipments

this year were greater than ever before by several hundred carloads.

With a proper selection and careful grading of the fruit and an expedited schedule freight service, and with possible reductions in charges in different ways from time to time, I believe that 12,000 cars of deciduous fruit can be marketed from California with as good or better results in the future as has ever been attained in the past, and the organization and maintenance of the California Fruit Distributors is a long step toward that consummation. It is a long stride in the direction of intelligent and practical co-operation in the handling of one of California's chief products, with the consequent benefit to the whole industry and to the whole State.

#### Arctic Chicken Ranch.

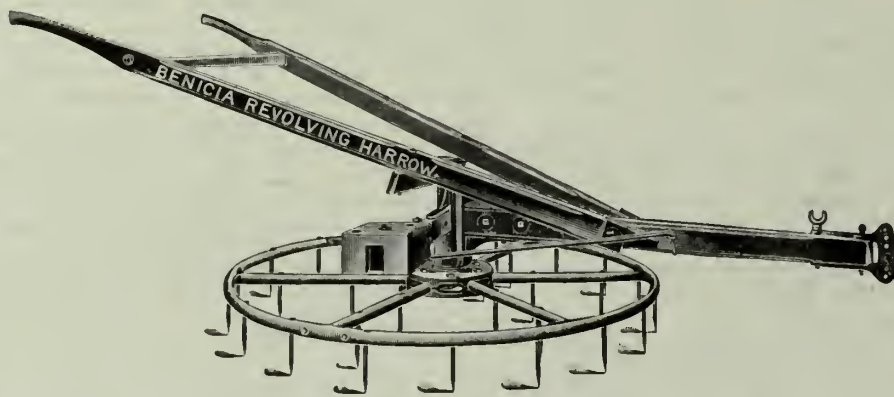
"Nome enjoys two dairies and a chicken ranch," says W. E. Dickinson, of the Nome Mining Record. "The chicken scheme was a side issue of mine. Last spring I sent up 1500 laying hens in charge of two experienced chicken fanciers, and during the summer I furnished the people of Nome with fresh eggs at \$1.50 per dozen, and chickens at 50 cents per pound. I also set a lot of hens, and was the first to raise chickens so near the Arctic circle."

# ROTARY VINEYARD HARROWS.

ASK FOR THE  
CHANNEL  
FRAME.

Strongest made.

Teeth easily lowered,  
removed or replaced.



BENICIA CHANNEL FRAME ROTARY HARROW.

A GREAT  
SUCCESS  
WHEREVER  
USED.

REVOLVES IN  
EITHER  
DIRECTION.

WE HAVE A FULL LINE OF ORCHARD, VINEYARD AND FIELD TOOLS. SELLING AGENTS FOR BENICIA Plow, Buffalo Pitts Spike-Tooth Harrows, Diamond Orchard Disc Harrows, Dowagiac and Thomas Grain Drills, Acme Pulverizing Harrows, Imperial and Benicia Pulverizers, etc.

## BAKER & HAMILTON,

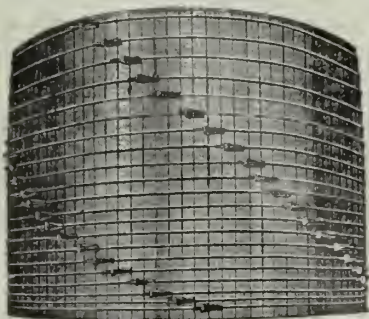
Los Angeles.

San Francisco.

Sacramento.

### OUR EXCELSIOR ADJUSTABLE ROUND-HOOP TANK

(Patented)



Costs no more, is easier to set up and is far superior to the old style flat-hoop tanks for any purpose. They need no water channels or perishable devices for keeping the staves wet. They are always tight. The hoops are of steel and tighten with a monkey wrench. They have an upset thread end 6 inches long. Each hoop has from 2 to 6 lugs or shoes, according to size of tank. Send for price list of stock sizes.

**The Excelsior Redwood Co.**

SOLE MANUFACTURERS,  
Fourth and Channel Sts., SAN FRANCISCO.

C. A. HOOPER & CO., Agents,  
204 FRONT STREET.....SAN FRANCISCO.

**GREENBANK**

BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.

DEWEY, STRONG & CO., Patent Agents, San Francisco, Cal., Washington, D. C.

### National Wood Pipe Company

MANUFACTURERS OF

## REDWOOD WATER PIPE

From 3-in. to 10-ft. in diameter for

Water Works,  
Mining and  
Irrigation Plants.



CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can be easily taken up and relaid, as it is absolutely indestructible. All pipe sold under an absolute guarantee. We contract for complete irrigation systems. Illustrated catalogue sent on application.

**NATIONAL WOOD PIPE COMPANY,** 6th and Mateo Sts., LOS ANGELES.  
301 Market St., SAN FRANCISCO.



## Agricultural Review.

### Fresno.

**A PROLIFIC VINE.**—Enterprise: The most prolific pumpkin vine put in evidence so far this season is one produced by J. W. Plank on the T. L. Jones ranch, southwest of this city. It was a mammoth vine, the main root of which, 8 inches beneath the surface of the ground, measured 11½ inches in circumference; and the one vine produced forty-six pumpkins that weighed in the aggregate 1473 pounds. Mr. Jones has a portion of the vine on exhibition in his office.

### Contra Costa.

**THE ALMOND CROP.**—Antioch Enterprise: While the members of the Contra Costa Almond Growers' Association harvested 144 tons of almonds this year, this does not mean that the total crop in eastern Contra Costa foots up only the amount given above. There are many growers who are not members of the Association. Then there is the western end of the county, where many trees in bearing contributed to the total number of tons. There is no means of ascertaining just what the total number of tons in Contra Costa will amount to.

### Monterey.

**SALINAS VALLEY BEET YIELDS.**—Index: John G. Tilman of Spreckels raised from 100 acres 2000 tons of beets, or 20 tons per acre. At \$4.50 a ton—the price delivered at the factory—the snug sum of \$9000 was received. Chapman Foster got 5006 tons of beets from 315 acres of the Lee Davis land—\$22,527. James and John Riley got 1400 tons of beets from 70 acres of irrigated land this side of the Spence switch—\$6300. G. A. Anderson of Spreckels got from 130 acres 2300 tons of beets—\$10,350.

### Napa.

**FOURTEEN THOUSAND ANGORA GOATS COMING.**—A Napa telegram states that at Atlas Peak, near Napa, T. Knight has recently greatly improved his ranch of 1100 acres. Twenty-two men are now at work repairing old fencing and building new, and putting up 300 feet of sheds, preparatory to receiving a band of 14,000 Angora goats owned by Knight and now on their way from Oregon. This will be one of the largest bands in California.

### Kings.

**LARGE GRAIN ACREAGE.**—Hanford Journal: J. W. Barbour says he will seed 3500 acres to grain this year, all but one section of which will be inside the Barbour reclamation district. He expects that a large acreage—probably 25,000 acres—will be put in grain in the lake bed the coming winter, providing the conditions of rainfall are propitious. Those who had grain in the lake region this year, on moist lands, made big money, as the yield was heavy and the price good.

**THIRTY-SEVEN MILES OF LEVEE.**—The Board of Supervisors of Kings county has granted a petition for the formation of the Tulare lake reclamation district, which now comprises 41,000 acres. It will contain two other townships later, when certificates of the purchase of land can be gotten. Thirty miles of the levee around the district, and 7 miles of levee from the Kings River Co.'s lower ditch to the Crescent canal, will be built. This will turn the overflow waters from Kings river into the San Joaquin river. Forty or fifty four-horse teams are at work. The levee will cost \$16,000.

**OLDEST VINEYARD.**—Hanford Sentinel: The oldest raisin vineyard in Kings county is at Grangeville and comprises eleven acres. Last year the vineyard yielded thirty tons of cured raisins, but this year the crop only reached twenty-six tons, for which an average price of \$85 a ton was received, or at the rate of \$200 per acre.

### Riverside.

**PERSIMMONS AND POTATOES.**—Enterprise: The chamber of commerce has received additions to its exhibit in the shape of eight persimmons, weighing 4 pounds 8 ounces, and two sweet potatoes weighing 17 pounds and 7 ounces and 11 pounds and 8 ounces. They were donated by B. H. Ferris of Riverside, and Robert Bridson of West Riverside, respectively.

### San Benito.

**ONE HUNDRED ACRES YIELDS \$15,000 IN PRUNES.**—Hollister Free Lance: In this valley is an orchard containing 1500 prune trees which have yielded 120 green tons annually for the past three years. The net amount per acre received is considerably over \$100 per acre.

### San Bernardino.

**BARGAIN IN ORANGE LAND.**—Sun: C. M. Slawson has purchased from George Ott, of East Highlands, a seven and one-half acre ranch in bearing orange trees

for \$8000. On the face of it this does not appear to be much of a bargain, but with the place went a crop of oranges, which is a large one and will net a big return, besides an hour of North Fork water, which is valued at \$1200. Taking out the value of these two assets, it will readily be seen that the price of the land with the oranges on it is considerably less than \$1000 per acre.

**THREE THOUSAND CATTLE FEEDING ON BEET PULP.**—Chino Valley Champion: One of the busy places on the Chino ranch now is the cattle feeding yards of the Chino Land & Water Co., east of town. About 3000 herd of cattle feed there on beet pulp and hay. Between the two long rows of corrals run the railroad tracks, upon which the pulp is hauled from the long silo running parallel with the corrals. Some 2000 tons of pulp are distributed along the troughs every day, and the cattle seem to be doing well on it. Some of as nice, sleek and fat cattle as can be found anywhere are being turned out of these yards. There is yet enough pulp in this huge reservoir to last until probably the middle of March. Mr. Steele says he proposes to plant one piece of some 500 acres of land just north of the yards to Egyptian corn next spring. He will harvest it with a big combined harvester and thresher, crush the corn and use it with the pulp as a mixed ration for the cattle next winter. He believes that splendid results can be gotten from this ration.

### San Joaquin.

**EGYPTIAN CORN IN DEMAND.**—Stockton Independent: There is quite a demand for Egyptian corn at present and business has been lively in this particular line of late. Large quantities of the corn are produced in San Joaquin county, and it is considered splendid hog feed. At present the market is quite strong, ranging from \$1.32½ to \$1.35 per cental.

**BIG SALE OF PINK BEANS.**—Stockton Record: The biggest sale of beans made this season took place last week when J. B. Meloche bought for a San Francisco firm \$7000 worth of Pinks from L. Del Porto of the Sargent-Barnhart tract. There were 4000 sacks in the lot. Beans give promise of being good property before next May. But one-third of a crop was raised in California this year, and the hold-over stock was very light.

### Santa Cruz.

**MORE MONEY FOR BEETS.**—Watsonville Register: Superintendent W. C. Watters of Spreckels, in conversation with a beet raiser of this valley, made the statement that he did not intend to be with the company after February 1, 1904, and he further stated that he thought the trust would meet the beet growers half way and establish a \$4.50 rate for beets, which will no doubt sound good to many beet raisers in this and other sections that have been affected by the cheap prices which have prevailed.

### Santa Clara.

**A PROFITABLE ORCHARD.**—Mercury: A prune orchard near San Jose, of 100 acres, produced this year 448 tons of green fruit, or 228 tons of dried fruit. The crop sold for more than \$15,000. The crop netted the owner \$100 per acre.

### Santa Cruz.

**PRODUCES MOST APPLES.**—Statistics just completed show that Santa Cruz county still maintains the lead as the banner apple producing section of the State. The crop in the northern portion of the county is larger than that of any previous year. The apple crop of the Pajaro valley for this year is reckoned at 1500 carloads. At the rate of 660 boxes to the car this means 990,000 boxes. Every box will average 180 apples, making a total of 178,200,000 apples, or about two and one-half apples for every man, woman and child in the United States. This estimate is rather under than over the correct number, and, if apples somewhat inferior but still useful for making cider and other like purposes were taken into account, the total would be well beyond 200,000,000.

### Solano.

**CREAMERY REPORT.**—Dixon Tribune: The secretary of the Dixon creamery reports sales of butter for the year at \$20,494.73; buttermilk, \$145.60; cream, \$100.75; totals, \$20,742.68. Earnings for year, \$3125.78; operating expenses, \$2183.15; net profits, \$953.65; butter fact received during year, as per Babcock test, 74,289 pounds; average percentage of overrun for year, 11½%; average price per pound of butter sold in year 24½c.

### Sonoma.

**FOR CO-OPERATIVE CANNERY.**—Santa Rosa Republican: At the last meeting of Progressive Grange, held at Healdsburg, the question of a co-operative cannery on the Rochdale system was earnestly discussed and favored by all the members present. At the annual meeting of the

Rochdale Company in January it is probable that the matter will be brought up and an effort will be made to organize along Rochdale lines. The Dervin cannery packed 35,000 cases of tomatoes this season for the Rochdale Wholesale Company, and these were quickly disposed of. It is believed that all kinds of fruit can be similarly handled through the country.

**OFFER TO MAKE CONTRACTS.**—The committee appointed by the grape growers of Geyserville and vicinity to negotiate with President Percy T. Morgan, of the California Wine Association, has received a communication from that gentleman relative to the matter in controversy. The growers recently made a proposition to the Association and the latter have now come back with a counter proposition for the growers. Mr. Morgan agrees to make contracts with the growers for either three or five years, but insists on the retention of the sugar test. The Association offers \$15 per ton on the contracts. The growers demanded \$20 per ton, the abolition of the sugar test and a contract of three or five years. The committee does not believe the growers will accept the proposition, and it has not yet been put to them in a meeting. In case they elect to reject this proposition, it is understood the growers will at once make preparations for the construction of their co-operative winery.

### Tulare.

**BUILDING WINERIES.**—Orosi Offer: Grape growers in the vicinity of Selma have formed an association for the purpose of building a winery and handling their own grapes. Such action is likely to take place at Dinuba and in other grape growing districts, and thus bring the California Wine Association down from their high horse.

### Ventura.

**SHIPPING BEANS BY THE TRAINLOAD.**—Oxnard Sun: A. F. Maulhardt has during the past three weeks, besides conducting his large farm, shipped out to the Eastern market three trainloads of Lima beans. A large number of these beans are of Mr. Maulhardt's own growing, and in doing his own shipping he is saving several hundred dollars in commissions.

### Tulare.

**LITTLE DEMAND FOR WHEAT LAND.**—Advance: Wheat land in Tulare county is not in as great demand this year as formerly, for the reason that farmers in general have come to the conclusion that other products of the soil are more profitable. On account of the light rainfall, wheat raising cannot be depended upon every year, and what is made one year is usually lost the next. Consequently the large wheat fields are being cut up into smaller tracts and put into alfalfa or fruit and irrigated by means of ditch system or by pumps and much better results are obtained.

**MOUNTAIN APPLE CROP.**—Porterville Enterprise: The apple crop in the mountains is light this year owing to frosts last May. On the Worley place at Milo there are seven tons of apples and the usual crop is fifteen tons. At Nelson's and Doyle's there is said to be no crop at all. Delbert Dillon has no crop on his place in Grouse valley. Apple blooms are very sensitive to frost and a freeze in May gets the apples in the Sierras. By keeping watch at this period apple growers could save their crops by a few nights of fires in the orchards.

## Horse Owners! Use

GOMBAULT'S

# Caustic Balsam

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charged, with full directions for its use. Send for descriptive circular. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## THE ARNDT Tree Protector!

A perfect, inexpensive protection against all creeping and crawling insects. Agents Wanted Everywhere. WRITE AT ONCE. Michigan Cut Flower Exchange. WM. DILGER, Mgr. Sole Distributors, DETROIT, MICH., U. S. A.

## 100 FINE SILK PIECES,

Extra large size, lovely colors for fancy work, only 15 cents postpaid. 2 lots for 25 cents. Money returned if not as represented. Address, EXCELLO CO., 472 Main St., East Orange, N. J.

## CALIFORNIA ALFALFA and FRUIT LAND COMPANY.

The bane of California's prosperity has been the sale of poor land to homeseekers.

### We have some of the Best Land in California,

Hence in the World, suitable for Alfalfa and Fruit. The severest test of good land is its capacity to raise crops of alfalfa or fruit. We guarantee the land to be adapted to the purpose for which it is sold.

It can be had in Small Farms for Homes or in Large Tracts for Colonization.

Inquire further of

CHARLES WESLEY REED, President, Mills Building, 7th floor, Rooms 20-21, San Francisco, Cal.

Or of—

T. L. REED, Manager, Reedley, Fresno county, California.

## CHEAPEST and BEST TREES IN THE STATE.

Cherries, Sugar Prunes, Bartlett Pears, Peaches, Almonds, Plums. Prices at wholesale or retail. Also Seed Jerusalem Artichokes for hog feed.

CHARLES WESLEY REED, Mills Building, 7th floor, rooms 20-21, San Francisco, Cal.

Every intelligent market gardener absolutely needs Maule's

# SEED

## BOOK for 1904

Cost over \$50,000 to publish. If you have a garden you can have a copy for the asking. Send a postal for it to

Wm. Henry Maule, Philadelphia, Pa.

## WE ARE THE OLDEST SCALE MANUFACTURERS IN THE WEST.

(Incorporated in 1881.)

We have REDUCED PRICES 25%, and have retained the STANDARD that has made our goods so popular. We ship on approval. We pay the freight. We do repairing. We do as we say—save you MONEY on steel and wood frame SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, Patent Specialties, Etc. Investigate.

### UNION SCALE CO.,

Dept 17, DES MOINES, IA.



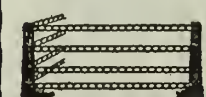
Because we have the best and cheapest iron, and do make the best Saw Mills on earth. 42 in. (free cut) Cuts 2,000 ft. a day. All sizes. Planes, Shingle Mills and Edgers with our Patent Variable Friction Feed; Portable Grinding Mills, Water Wheels, Lath Mills, etc. Our catalog shows all. Send for it. Lowest freight. De Losch Mill Mfg. Co., Box 208, Atlanta, Ga. 114 Liberty St., New York.

## FOR SALE, 800 ft. Sheet Iron Water Pipe

No. 14 black iron, double riveted, slip joints in columns. Diameter 8 inches. Made by Francis Smith & Co. Never been used. Thirty cents per foot in any quantity.

Address W. E. HAYES, Los Banos, Cal.

## The Durability of Truss and Cable Fences



There are no sharp twists in the wire as is the case in most woven wire fences, consequently no strength is lost. The coating is not broken and the danger of rusting or breaking is practically eliminated. Up hill and down again and no sag. Best and cheapest wire fence on earth.

Write for descriptive circular.

Pacific Hardware & Steel Co. 401 Mission Street, San Francisco.



## The Home Circle.

There was a fairy, wise and good,  
Once on a time, as I've heard say,  
Who took the bits of happiness  
That foolish folks had thrown away.  
And wove them in a wondrous loom  
Till she had made a Robe of Joy,  
Whose shining folds were never  
dimmed,  
And which no time could e'er destroy.

Then all the people cried "Alack!  
Lend us, we pray, this wondrous dress,  
That we may say that we have known  
At least a borrowed happiness!"  
The fairy smiled, "Go, look," she said,  
"Along your path, and you will find  
That though a few stray joys I took,  
Yet plenty still remain behind!"

—Priscilla Leonard.

What wondrous life is this I lead!  
Ripe apples drop about my head;  
The luscious clusters of the vine  
Upon my mouth do crush their wine;  
The nectarine and curious peach  
Into my hands themselves do reach;  
Stumbling on melons, as I pass,  
Ensured with flowers, I fall on grass.

Here at the fountain's sliding foot  
Or at some fruit tree's mossy root,  
Casting the body's vest aside,  
My soul into the boughs does glide;  
There, like a bird, it sits and sings,  
Then whets and elaps its silver wings,  
And, till prepared for longer flight,  
Waves in the plumes its various light.

—Andrew Marvell.

### Over-Careful Housekeeping.

When a child of twelve years I visited at the house of a lady who prided herself upon her housekeeping, and whose neighbors justly gave her credit for a great degree of proficiency in that department of life, says a writer in *Housewife*. My remembrance of that visit always brings a chill, and I turn my thoughts as quickly as possible into another channel, even though I am now middle-aged. If a chair in any room was left awry it was immediately set straight; if a window-shade was raised or lowered above or below the regulation line, it was at once put into place. If by any carelessness dirt or litter, however small in quantity, or harmless in its nature, was to be seen anywhere within the limits of that household, the broom, always at hand, was brought into use, to the shame of the individual guilty of such carelessness.

The husband was, unfortunately, not in sympathy with the strict regime in vogue, so he had his full share of trouble, for in my presence he bore scolding and snubbing so patiently that my child heart pitied him, and I remember that more than once, in my simplicity, I tried to be kind to him, to atone for this lack of appreciation and privilege in his own household. Since that time I have known other households of like character—where no dirt accumulates—no freedom in the use even of chairs is encouraged, because disorder ensues; no flies linger pleasantly buzzing in the sunshine, for no sunshine is welcomed or tolerated for reasons well known, and the housefly soon learns wisdom and departs for parts less despot; no children are welcome, except accompanied by watchful mammas or faithful attendants, who will nervously restrain every attempt at investigation or familiarity with people or objects on the part of these little folks, who soon wish to leave such an atmosphere and enter that of some loving housekeeper, who will kindly allow them all reasonable privilege, and who will enjoy the spontaneous outburst of childhood innocence; no freedom is tolerated that encroaches upon the set regulations of "the good housekeeper."

Now, I would like to inquire if it is not better to live in a comfortable manner, making all around feel at home, even if disorder and a certain amount of dirt, actual dirt, is sometimes apparent? Is it not better to relax the hold than to keep in the grip the entire family, and all guests who are so hardy as to venture within the lines? Is it "good housekeeping" to make your home a model of neatness, exactness and

regularity, at the expense of personal enjoyment and comfort? Is not the so-called "good housekeeper's" many times misnamed? Not that we advocate untidiness, disorder and indifference concerning the details of home life, upon which so largely depend our comfort and happiness; but is it not better to take medium ground and strive to be a care-taker without letting our right hand know what our left hand doeth?

Is it not more polite and safer to ignore the carelessness and lack of thoughtfulness on the part of our guests than to painfully remind them by our haste to make amends or restore order in their presence? It is wise to train our children to ways of order and care-taking, but if we injudiciously "nag" them we shall fail in our object, and possibly estrange them from the home life.

Oh, mistaken wife and mother, such a habit in your busy life would be a grand investment and return you a hundred-fold. Many a husband and father has wandered into some gilded saloon just to while away a few moments, until the habit has grown upon him, and his home has lost its charm—he seeks it only as a duty and a resting place. Young wives and housekeepers, even those who have no domestic help, we counsel you to give your husbands of your society that their business relations allow. The dishes can wait—so can the broom and the duster—but your husband's affection and devotion will surely wane and wither if you do not foster and cherish as a tender plant. Without love and contentment, of what avail are the commendable qualities of good housekeeping? With love and contentment they are all important factors. Let us then, old and young, strive to avoid the breakers of "over-careful housekeeping."

### Japanese Seamstresses.

The Japanese as a people are delightfully deft with their fingers, but the women can not do sewing for Americans. A New York modiste has learned this to her sorrow. She was to prepare the costumes for a fancy dress party, and one of the men connected with it conceived the bright idea of employing Japanese women to assist in the work. The designs for the costumes were made by a Japanese artist, and it would give more atmosphere to the costumes, he thought, if native women made them. He knew a little Japanese matron who made her own kimonos, and she would be glad to sew for the Americans.

In due time she appeared at the rooms of the modiste with a sister-in-law, another little woman of the same race. They were ready to go to work, and there would be no preliminaries but one. They must have their money in advance. The modiste argued. She never paid her workwomen in advance; they must do the work and then they would be paid. The little brown-faced ladies were gentle but persistent. They must have their money or they could not come. They got their money and they came. That was the beginning of a series of tribulations for the modiste.

The hours of the little ladies suited themselves. They came at 8:30, 9, 10—any time in the morning they pleased. Then they must remove their small shoes, get out their bonbons to nibble as they worked, and make themselves comfortable. As they sewed they chatted incessantly. At noon they made tea. They brought their own tea service, and it took them a good hour to heat the water and make and drink the light-colored liquid they called tea. At 5 o'clock they left.

This was too much for the modiste. She really could not have it. All her workwomen were expected to work until 6, and the little Japanese women must do the same. But they did not.

"We must go at 5," they reiterated gently to everything she said, and as soon as their toilettes were made they left.

The toilettes, however, required considerable time. Never were there such prinkers. Each little lady rouged her cheeks, touched her lips with carmine and darkened her eyes.—N. Y. Sun.

### Beds for Invalids.

Sickness comes at some time, soon or late, to every family, no matter how carefully guarded, but trained nurses are not always at hand. On this account it is a safe thing for every woman to know just how to prepare and change a bed for a person too ill to be readily moved. The best bedstead for use in sickness is of brass or iron, 6½ feet in length, 2 or 2½ feet in height and 3 feet in width. The mattress should be of hair, as that can be readily cleaned and disinfected. Cotton makes the best material for sheets, as linen is apt to chill. Three sheets should be in use at a time—the upper, the lower and the draw, which is placed directly under the patient. Blankets of good quality make the best covering, with a light-weight counterpane at the top. There should be two large pillows—one of hair and the other of feathers—and as many small pillows as the exigencies of the case require. If a rubber sheet is necessary, spread it smoothly on the mattress. Put on the lower sheet and pin it into place on the under side of the mattress, so that the patient may not work it up into wrinkles. Fold the draw sheet and pin it across the middle of the bed, so that it will extend from the patient's shoulders to well below the hips. Put on the upper sheet, leaving it a little loose for the feet and long enough to turn over the blanket at the top. The blanket need not be so long as the sheet, but should be long enough to tuck around the patient's neck. The counterpane may be of the same length as the sheet and left long enough to fold over. In changing the bed roll the patient to one side, putting one hand against the shoulder and the other against the hip. Roll the lower sheet up in lengthwise folds against the patient, put on the fresh sheet and the draw sheet and pin in place. Protect the patient with the upper sheet and roll him over on the spread-out portion of the clean sheets. Pull the lower sheet smooth and pin. Put a clean upper sheet on over the soiled one, tuck in the clean one and remove the soiled one. It is scarcely necessary to emphasize the fact that in changing the bedding everything should be aired, warmed and at hand, so that there need be no delay. Double beds make good sick beds, as the patient can sleep on one half during the day and the other half at night.

### Bad Teeth.

"Many people who come to me to have their teeth attended to complain, incidentally, of failing eyesight, and when I tell them bad teeth in nine cases out of ten are the cause, few feel inclined to believe me," said a well-known New York dentist.

"Bad sight is generally attributed to overstudy, debilitated constitution and a hundred and one other causes, but have you ever heard any one place the blame on bad teeth? Bad teeth are the direct result of insufficient application of the toothbrush, and bad eyesight, resulting from the decayed molars exciting disturbances of the ocular nerves, is the next inevitable penalty. That is a fact which seems to be little known.

"The other day I extracted four decayed teeth of a young girl who was almost totally blind. Her pupils were dilated and insensible. A week after I had pulled her teeth her sight was practically restored. Two months previous to this cure the girl had been examined by an expert oculist, who, after putting her to various eye tests, designated the case as 'hysterical amblyopia,' and I guess that's about all the satisfaction the girl got, judging by her condition when she came to me. In saying this I do not think for a moment that I am in any way prejudiced against oculists. I merely cite the instance.

"In the course of a year I attend to the teeth of scores of people with impaired vision, and in every case where the teeth are drawn the sight is soon after either greatly improved or entirely restored."—Exchange.

### Hints to Housekeepers.

For orange pudding beat a tablespoonful of butter and three-quarters of a cup of sugar together. Rub in two eggs and beat. Add one cupful of cracker crumbs, the grated rind and juice of one orange and one quart milk. Bake until custard "sets."

A sharp pain in the lungs or side can be driven away by applying vaseline and mustard in the proportion of two parts vaseline and one part mustard. Rub it together and spread on a piece of linen as you would an ordinary paste. This is also excellent for a severe pain in the back of the neck and has been used with good results for breaking up the grip.

Watercress salad is served with birds. Never put it on the hot platter and do not send it to the table already dressed. Cresses should be as crisp and chilly as possible. After looking it over and washing in ice water, wrap it in a clean cloth and lay on the ice until the moment of serving. It may be tossed in a French dressing at the table, or, since many people prefer to eat it with salt only, the dressing may be passed in a sauce boat.

Sausages are not necessarily messes of greasy indigestibility. Properly cooked they are delicious, and, to the ordinary healthy adult, not unwholesome. Brown a chopped onion in a tablespoonful of butter, adding the juice of half a lemon. Cook the sausages in this for about five minutes. Add a cupful of brown sauce, and allow a minute or two more for this to heat. Serve on a hot platter with minced parsley sprinkled over the sausages. A few mushrooms in the sauce add to its flavor.

Prepared floor paints can be purchased. Floors painted at night will dry during the night. Before applying the paint have the floor perfectly dry and clean. Never scrub floors that have been painted. An occasional coat of floor oil will keep them bright and fresh. A floor that has not been previously painted or one where old paint has worn off should not be washed and painted the same day, for the reason water will soak into the exposed wood and will be damp under the surface and paint will not dry on it.

An infant should be given no food containing starch until it cuts its teeth. Starchy foods include biscuits, corn flour, tapioca, sago, rice, potato, etc. An infant cannot digest any of these until its teeth are cut. Violent noises and rough shakings or tossing are hurtful to a baby, and should be avoided as much as possible. Infants should never be put into a sitting posture until they are at least three months old, when they will probably sit up of their own accord. They should be carried flat in the nurse's arms, as, if the little back is at all curved, it may lead to curvature of the spine or chest disease. Until children are six or seven years old they should have twelve hours sleep every night. In addition to this, a nap for two hours, either in the morning or afternoon—especially in hot weather—will do a great deal toward keeping them bright and well.

Hygienists all agree in telling us that we do not eat sufficient fruit, which is infinitely more productive of health and beauty than candy and pastry. Ripe apples are especially healthy, and children may eat them without danger. Some doctors say that an apple at bedtime produces sleep. Pears are more tasty than apples, but not so healthy unless cooked. Prunes have medicinal qualities which cannot be denied. They are better cooked, however. Apricots are also more healthy cooked than raw. Peaches are very healthy. The most healthy of all fruit, however, are grapes. Gooseberries and currants are best cooked. Figs are also excellent; they were in great favor with ancient Roman ladies, who always ate them for breakfast. Pineapples are said to be the best cure for dyspepsia yet known. Nuts of all kinds are indigestible. Oranges are also excellent as a cure for dyspepsia. Lemons produce cheerfulness and prolong life.



**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

**LOS CATOS--THE GEM CITY.**

Property for sale in the town and its suburbs; the center of the fruit belt, beautiful for location, climate unexcelled.

6 3/4 acres 1/2 mile from depot, on Saratoga road; a snap. Price \$4500

13 acres 1 mile out; in orchard; comfortable residence. \$3500

1 acre close in; elegant improvements; large house. \$4500

26 acres, summer resort, 4 miles out, part in orchard; a bargain; near station. \$3500

Extra bargain, right in town, 12-room house, well kept grounds. \$6500

In heart of town, beautiful residence, well kept grounds. \$3600

5-acre tract close in, with orchard. \$2000

One same size adjoining. \$1800

5-acre full bearing orchard, fine improvements, 2 1/2 miles out, large house, only. \$3000

JOHN F. BYXBEE Palo Alto Santa Clara County, Cal.

**FRUIT AND VINEYARD LANDS**

Sold in 10-Acre Tracts,  
\$160 to \$170 per Acre,  
In the Celebrated

**SANTA CLARA VALLEY,**  
On the direct road from San Jose to  
**STANFORD UNIVERSITY.**  
EASY PAYMENTS.

Address: B. E. BURNS, Mountain View, or  
I. J. TRUMAN, 906 Call Bldg., San Francisco.

**THREE POINTERS!**

**REAL ESTATE.  
COLLECTIONS.  
LOANS.**

We sell the earth—can sell yours anywhere in the U. S.  
We make collections everywhere. No collection—no fee.  
We will loan you money on personal note in large or small sums.  
Why not write us to-day? To-morrow never comes. All business confidential.

**RIVERSIDE MERCANTILE AGENCY,**  
RIVERSIDE, CALIFORNIA.

**GLENN RANCH,**

Glenn County, - - California.

**FOR SALE  
IN SUBDIVISIONS.**

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips. The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.


**STOCK RANCHES a Specialty.**

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.

We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and wethers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

**CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.**



**Oranges**

The quality and flavor of the fruit depends upon

**Potash**

Oranges absorb large quantities of Potash and the orchard should be replenished by a complete fertilizer rich in Potash.

Soil culture is a scientific problem. Our books giving full details will be mailed free to any farmer who writes for them.

**GERMAN KALI WORKS, 93 Nassau Street, N. Y.**

MEYER, WILSON & CO., San Francisco, Cal.,  
Sole Agents for the Pacific Coast.

**W. & P. PAINT.**

Good for any purpose where black paint is required; for inside or outside of tanks for wineries and creameries; for floors, sinks, and wash trays; for insulating; for timber or roof preserving; for damp course for walls; for boilers, fronts, stacks, or other iron work; for anything or any place needing preservation from corrosion, dampness, rust or decay. Unaffected by acids or alkalis. Odorless, and safely applied. Dries quickly and is tough and durable. Lowest in price; best, irrespective of price. If interested let us send you sample. **PACIFIC REFINING & ROOFING CO., 113 NEW MONTGOMERY ST., SAN FRANCISCO.**

**THE "BOSS" TREE PROTECTOR.**

Made of Yucca Palm.

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

PRICES:			
12 inches long,	\$ 9.00	per 1000.	
14 "	"	10.00	"
16 "	"	11.50	"
18 "	"	12.50	"
24 "	"	15.00	"
30 "	"	17.50	"

Agents Wanted  
Everywhere.

**YUCA MANUFACTURING CO.,**

450 Santa Fe Avenue, Los Angeles, Cal.



No Smoke House. Smoke meat with **KRAUSERS' LIQUID EXTRACT OF SMOKE.** Made from hickory wood. Gives delicious flavor. Cheaper, cleaner than old way. Send for circular. **E. Krauser & Bro., Milton, Pa.**

Telephone Main 199.

**BLAKE, MOFFITT & TOWNE,**  
DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE..... Los Angeles.  
BLAKE, McFALL & CO..... Portland, Or.

**OUR SALES IN 1903 OVER 3,000,000.**  
TRY THEM--WE GUARANTEE SATISFACTION.



**PRICE, STANDARD SIZE, \$17.50 PER M.**

**A Cheap, Effectual and Permanent Method of Propping Trees.**

Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.

**SAMPLES FREE TO ORCHARDISTS.**

**HOYT'S TREE SUPPORT CO.**  
WATSONVILLE, CAL.

Or, **R. M. TEAGUE, San Dimas, Cal.**  
Distributor for Southern California.



**A Position or Your Money Back.**

A business education pays when you can turn it into cash.  
We want to help you make it pay. With over 500 positions to fill a year, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.


**R. L. DURHAM,**

305 Larkin St., San Francisco, Cal.

**School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.**

113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. **A. VAN DER NAILLEN, Pres't.**  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.



**Single and Double Acting Deep Well Pumps**  
of the highest efficiency.  
**STEAM AND GEARED PUMPS**  
pumping water supply for cities, railroads and factories.  
**THE DOWNIE PUMP COMPANY.**  
Box 21, Downieville, Pa.

**BRIGHT'S DISEASE AND DIABETES NEWS.**

Office Wine and Spirit Review,  
San Francisco, Dec. 21, 1903.

To PUBLISHERS:

Dear Sirs:—The business men of this City who are now proclaiming to the world the discovery of the cure for Bright's Disease and Diabetes have asked me as one of the beneficiaries to write to some of my brother editors. Hence this letter to you. I was at first as skeptical as anyone. I had reason to be. I had a clear case of chronic Bright's Disease; was ill for a year. It was not thought I would live thirty days. The President of the Pacific States Type Foundry told my wife that the newly-discovered diuretic would save my life, and against my private convictions I was put on it. In six months my recovery was complete.

A friend of mine, Dr. A. J. Howe, a prominent physician, was nearly dead with Bright's Disease. Upon my recovery I told him and it acted the same in his case, and he is now well on the road to recovery. I told one of the writers on the Call, whose mother had Diabetes. She has fully recovered. As a brother editor I personally assure you of the truth of the discovery. Thousands of lives are to be saved and I am writing in the hope that this letter will start some of them right.

Fraternally yours,

R. M. Wood, Editor.

The above refers to the newly-discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes.

Send for literature to the John J. Fulton Co., 407 Washington St., San Francisco, Cal.

**AUTOMOBILES**  
AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL!  
INVESTIGATE!

**MOTOR VEHICLE CO.**

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.



**Clean Your Grain for Seed.**

Foul seeds and cracked grain require just as much time to put into the ground and just as much room in the ground.

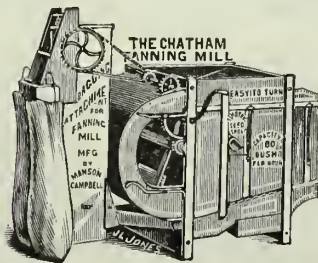
This machine will clean any kind of grain, taking out all foul seeds, separating oats from wheat, cleaning and grading barley, cleaning alfalfa. We have special screens for cleaning all sizes of beans. Over one thousand of these Fanning Mills now in use in California.

Send for one of our beautiful circulars, telling you how to make "Dollars Out of Wind."

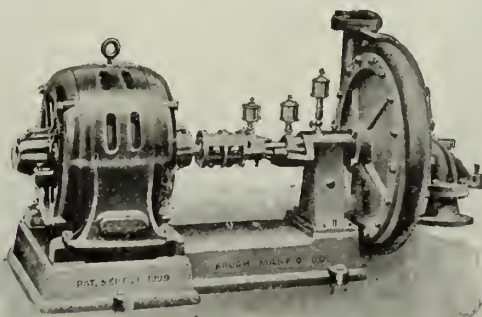
We pay all freight.

**GEO. W. FOOTT,**

General Agent, FRESNO, CAL.



The above cut represents the "Famous" Chatham Fanning Mill with Sacker Attached, which won the First Prize at the State Fair, Sacramento, Cal., this fall.



**TRIED AND TRUE KROGH PUMPS.**

First and last and always best for all kinds of work.

Send for our Catalogue "L." Address **KROGH MANUFACTURING CO.**  
519 Market Street San Francisco.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, December 16, 1903.

### Wheat.

The market has been inclining against the selling interest during the greater part of the past week, owing largely to more favorable crop weather in this State, as also in the great wheat section of the Middle West. European markets were in the main lacking in strength, and the weather in most parts of Europe was reported good for this time of year. Advances from the Argentine section, however, were to the effect that rain was doing great and irreparable damage to the grain crop. The Argentine grain crop has been the club of the bears for some time past, but it seems to be now clearly established that the markets of Europe are not to be flooded with wheat from the Argentine country this season. Although the speculative market here suffered a decline of 2½c per cental on Saturday, spot wheat was not obtainable in noteworthy quantity at materially lower figures than had been previously ruling. The option market later on recovered part of the loss of Saturday. The rain did not prove very extensive or heavy, but was of some benefit in the coast counties from San Francisco north. With stocks of wheat in the State quite small, and likely to prove little more than will be required on home account during the balance of the season, the chances are decidedly against wheat dropping to low values in the local market during the next six months, even should there be developments of additional weakness in Eastern and foreign markets. Wet weather at close caused a weak feeling.

California Milling ..... \$1.40 @ 1.50  
Cal. No. 1 shipping, alongside ..... 1.35 @ 1.37½  
Oregon Club ..... 1.35 @ 1.40

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.35½ @ 1.34½.  
May, 1904, delivery, \$1.35½ @ 1.33.  
Wednesday, at the forenoon session of Exchange,  
December, 1903, wheat sold at \$1.34½ @ —; May,  
1904, at \$1.33 @ —.

### Flour.

Market is quiet, and in quotable values there are no changes. Stocks are of quite moderate proportions, and are not apt to show material increase for some months to come. Recent shipments to Asia and South America have been comparatively light. Trade on local account is hardly up to the average. Most of the flour in store here is the product of mills outside the State.

Superfine, lower grades ..... \$3.00 @ 3.25  
Superfine, good to choice ..... 3.35 @ 3.50  
Country grades, extras ..... 4.00 @ 4.25  
Choice and extra choice ..... 4.25 @ 4.50  
Fancy brands, jobbing ..... 4.50 @ 4.75  
Oregon, Bakers' extra ..... 3.50 @ 4.00  
Washington, Bakers' extra ..... 3.50 @ 4.15

### Barley.

The market for this cereal has been hinging on the weather, which is not unusual for this time of year, speculative values more especially being particularly sensitive to weather influences. In the sample market the feeling was weak or firm as the weather appeared favorable or unfavorable for coming season, but spot values did not fluctuate to any pronounced degree. Spot offerings could not be termed heavy, although of common feed qualities there was more than a sufficiency for immediate needs. Desirable export grades are most in request and for this description current values are being best maintained.

Feed, No. 1 to choice ..... \$1.12½ @ 1.15  
Feed, fair to good ..... 1.10 @ 1.12½  
Brewing, No. 1 to choice ..... 1.16½ @ 1.22½  
Chevalier, No. 1 to choice ..... 1.37½ @ 1.47½  
Chevalier, common to fair ..... 1.12½ @ 1.32½

### Oats.

Business has not been very brisk the current week, but market as a whole has displayed a rather firm tone. Holders as a rule showed little or no inclination to crowd stocks upon buyers as the expense of making marked concessions to effect sales. Especially was there an absence of undue selling pressure on high-grade oats and choice to select seed qualities.

White oats, fancy feed ..... \$1.32½ @ 1.35  
White, good to choice ..... 1.27½ @ 1.30  
White, poor to fair ..... 1.22½ @ 1.25  
Milling ..... 1.27½ @ 1.32½  
Surprise, good to choice ..... 1.25 @ 1.35  
Black Russian feed ..... 1.25 @ 1.40  
Black for seed ..... 1.50 @ 1.65  
Red, fair to choice ..... 1.22½ @ 1.35

### Corn.

Market has developed no important changes since last review. Buyers are taking hold sparingly at full current figures, and sellers in the majority of instances refuse to grant material concessions. Most of the corn now in stock here, both domestic and Eastern products, is owned by dealers.

Large White, good to choice ..... \$1.25 @ 1.30  
Large Yellow ..... 1.22½ @ 1.30  
Small Yellow ..... 1.40 @ 1.50  
Eastern, in bulk ..... 1.20 @ 1.25

### Rye.

Offerings and demand are both light. Values are being maintained as last quoted.

Good to choice, new ..... \$1.25 @ 1.35

### Buckwheat.

Nothing of consequence now doing in this cereal, and no changes in quotable values.

Good to choice ..... \$1.90 @ 2.25

### Beans.

Market is ruling more quiet than for a week or two preceding, and is presenting an easier tone, but in the matter of quotable values there are no radical changes to record. To make at this date free purchases of any variety, fully as good figures as have been lately current would have to be paid. Crowding stock upon the market, however, would necessitate the acceptance of lower prices. In the matter of quantity of present supplies, Large Whites, Bayos, Black-eyes and Limas, take the lead. There are few Red beans of any sort offering, and Red Kidneys are in particularly light stock.

Pea, fair to good, 100 lbs. .... \$3.00 @ 3.25  
Small White, good to choice ..... 2.90 @ 3.10  
Large White ..... 2.40 @ 2.60  
Pinks ..... 2.60 @ 2.75  
Bayos, good to choice ..... 2.35 @ 2.45  
Red Kidneys ..... 4.00 @ 4.25  
Reds ..... 3.25 @ 3.50  
Limas, good to choice ..... 3.00 @ 3.10  
Black-eye Beans ..... 2.00 @ 2.15  
Garbanzos, large ..... 2.00 @ 2.25  
Garbanzos, small ..... 1.25 @ 1.50

### Hops.

The local market is ruling firm for desirable qualities, with stocks mostly in second hands. For low grade hops there is not much inquiry, and values for this sort are not very well defined. The last Australian steamer took 33,360 lbs. hops, the greatest portion being for Sydney. The Santa Rosa Press-Democrat reports: "During past week there was considerable activity in Sonoma county hop market. On Friday and Saturday some 1,200 bales were sold at a uniform price of 22c. Only 800 bales now remain unsold in Sonoma county."

California, good to choice, 1903 crop ..... 19 @ 22½

### Wool.

This market remains as last noted, being inactive and featureless, and there is little probability of any other condition being developed until after the turn of the year. There is not much wool offering from first hands in this center, and there are no heavy quantities being carried by dealers. Values are without quotable change, but in the absence of any noteworthy trading, are largely nominal for the time being.

### FALL.

Humboldt and Mendocino ..... 11 @ 13  
Mountain, free ..... 9 @ 11  
San Joaquin Plains ..... 7 @ 10

### Hay and Straw.

Inquiry for hay has been of rather light volume most of the current week, and market showed no special firmness, but holders were not inclined to grant material concessions to effect sales, preferring to carry stocks and take chances of the market later on, believing that all the good to choice hay in warehouse will be needed before the close of the season. Values for Straw are ruling steady, with offerings light.

Wheat, good to choice ..... \$13.50 @ 16.50  
Wheat and Oat ..... 13.50 @ 15.50  
Oat, fair to choice ..... 11.00 @ 14.50  
Barley ..... 10.00 @ 13.00  
Clover ..... 10.50 @ 11.50  
Alfalfa ..... 9.50 @ 11.00  
Stock hay ..... 9.00 @ 9.50  
Compressed ..... 13.50 @ 16.50  
Straw, per bale ..... 55 @ 65

### Millstuffs.

Prices throughout remain quotably as last noted, with a generally easy feeling, especially for Bran and Milled Corn.

Bran, per ton ..... \$18.50 @ 19.50  
Middlings ..... 25.00 @ 28.00  
Shorts, Oregon ..... 19.00 @ 20.50  
Barley, Rolled ..... 24.00 @ 25.00  
Cornmeal ..... 28.00 @ 29.00  
Cracked Corn ..... 28.50 @ 29.50

### Seeds.

Very little Alfalfa on the market and stiff prices are prevailing. Mustard Seed is ruling quiet, but is being steadily held. Present business in Bird Seeds is mainly of a light jobbing character.

Alfalfa, Cal., good to choice ..... \$15.00 @ 16.00  
Alfalfa, Utah ..... 15.00 @ 16.00  
Flax ..... 2.00 @ 2.50  
Mustard, Yellow ..... 2.75 @ 3.00  
Mustard, Tricote ..... 3.00 @ 3.25  
Canary ..... 6 @ —  
Rape ..... 13½ @ 24  
Hemp ..... 3 @ 3½  
Timothy ..... 6 @ —

### Live Stock and Meats.

Beef is in good request and market for prime to choice is firm at ruling rates. Extra choice, or what is termed Christmas Beef, is commanding above quotations. Choice Veal is meeting with prompt sale at full current figures. Market for Mutton and Lamb is showing decided steadiness, with no excessive offerings of desirable qualities. Hogs were in

rather light receipt, but demand was mainly for immediate use.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net per lb. .... 63½ @ 74½  
Beef, 2nd quality ..... 6 @ 6½  
Beef, 3rd quality ..... 5 @ 5½  
Mutton—ewes, 7½ @ 8c; wethers ..... 8 @ 8½  
Hogs, hard grain, 140 to 200 lbs. .... 5¼ @ —  
Hogs, large, hard, over 200 pounds ..... 5 @ —  
Hogs, small, fat ..... 5 @ 5¼  
Veal, small, per lb. .... 8½ @ 9½  
Lamb, per lb. .... 9 @ 10

### Hides, Skins and Tallow.

Many Hides are now arriving in grubby condition and for such the market is not firm. Sound Hides and Pelts are in fair request. Tallow is meeting with tolerably prompt custom.

Nothing but select hides, clean and trimmed, will bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower figures.

	Sound.	Culls.
Heavy Steers, over 56 lbs.	9 @ —	8 @ —
Medium Steers, 48 to 56 lbs.	8 @ —	7 @ —
Light Steers, under 48 lbs.	7½ @ —	6½ @ —
Heavy Cow Hides, over 50 lbs.	7½ @ —	6½ @ —
Light Cow Hides, under 50 lbs.	7 @ —	6 @ —
Stags	5 @ —	4 @ —
Wet Salted Kid	— @ 9	— @ 8
Wet Salted Veal	— @ 10	— @ 9
Wet Salted Calf	— @ 10½	— @ 9½
Dry Hides	15 @ 15½	14 @ 14½
Dry Kip and Veal, 11 to 16 lbs.	— @ 13	— @ 12
Dry Calf, under 4 lbs.	— @ 18	— @ 16
Pelts, long wool, per skin	1.00 @ 1.50	
Pelts, medium, per skin	.70 @ .90	
Pelts, short wool, per skin	.40 @ .55	
Pelts, shearing, per skin	.15 @ .30	
Horse Hides, salted, large prime, each	2.75	
Horse Hides, salted, medium	2.50	
Horse Hides, salted, small	2.00	
Horse Hides, dry, large	1.75	
Horse Hides, dry, medium	1.50	
Horse Hides, dry, small	1.25	
Tallow, good quality	4¼ @ 4½	
Tallow, poorer grades	2½ @ 3½	

### Poultry.

There were continued free receipts of Eastern poultry, mainly Chickens, and the market was devoid of firmness, especially for ordinary stock. Considerable quantities of Chickens, both domestic and Eastern, were carried over from preceding week. Turkeys were not in very heavy receipt, but prices averaged a little lower than last quoted, especially for Dressed. Values for Ducks and Geese were tolerably well maintained at previous range. The Pigeon market was quiet but steady. Chicken market closed firmer for full-grown stock.

Turkeys, dressed, per lb. .... \$ .20 @ .22  
Turkeys, young gobblers, per lb. .... .19 @ .21  
Turkeys, young hens, per lb. .... .19 @ .21  
Hens, California, per dozen ..... 4.50 @ 5.50  
Hens, large ..... 6.00 @ 7.00  
Roosters, old ..... 4.50 @ 5.50  
Roosters, young (full-grown) ..... 5.00 @ 6.00  
Fryers ..... 4.00 @ 4.50  
Broilers, large ..... 4.00 @ 4.50  
Broilers, small to medium ..... 3.00 @ 3.50  
Ducks, old, per dozen ..... 5.50 @ 6.50  
Ducks, young, per dozen ..... 6.50 @ 7.50  
Geese, per pair ..... 1.75 @ 2.25  
Goslings, per pair ..... 2.00 @ 2.25  
Pigeons, old, per dozen ..... 1.00 @ 1.25  
Pigeons, young ..... 2.00 @ 2.25

### Butter.

Market continued to incline in favor of the consumer, with stocks of fresh, especially of medium and common qualities, considerably in excess of the demand. Held butter is given the preference over common fresh. There is some outside inquiry for best fresh, but shipping orders are in the main limited to 25c for strictly choice.

Creamery, extra, per lb. .... 27 @ —  
Creamery, firsts ..... 25 @ 26  
Creamery, seconds ..... 23 @ 24  
Dairy, select ..... 24 @ 25  
Dairy, firsts ..... 22 @ 23  
Dairy, seconds ..... 20 @ 21  
Cold storage ..... 23 @ 25  
Mixed Store ..... 16 @ 18

### Cheese.

Stocks of flats continue heavy and for other than mild new of high grade the market is slow and weak. Small cheese is selling in a limited way to fair advantage, supplies being light.

California, fancy flat, new ..... 13 @ —  
California, good to choice ..... 11½ @ 12½  
California, "Young Americas" ..... 13 @ 14  
Eastern ..... 14 @ 15½

### Eggs.

Fresh eggs were in only moderate receipt, but recent prices were too high for other than a very few consumers, and to prevent accumulations lower figures had to be accepted. No great breaks in values are anticipated, however, until after the holidays. Large quantities of cold storage eggs, domestic and Eastern, are now being consumed.

California, select, large, white and fresh. 47½ @ —  
California, select, irregular color & size. 35 @ 42½  
California, good to choice store ..... 28 @ 32  
Eastern, cold storage ..... 26 @ 28

### Honey.

Demand is not brisk and is mainly for the choicest and the most ordinary, or for water white and for dark honey. The latter is in moderate request from bakers for honey cake, which serves for this purpose as well as light honey, and is given the preference on account of cheapness. Present stocks are largely medium amber grades and these are moving slowly.

Extracted, White Liquid ..... 5½ @ 6  
Extracted, Light Amber ..... 4½ @ 5  
Extracted, Amber ..... 1 @ 4½  
Extracted, Dark Amber ..... 3½ @ 4  
White Comb, 1-frames ..... 13 @ 14  
Amber Comb ..... 9 @ 11

### Beeswax.

Market is not burdened with offerings and is tolerably firm at quotably unchanged values.

Good to choice, light per lb. .... 27½ @ 29  
Dark ..... 25 @ 26

### Dried Peas.

There is considerable inquiry for both Green and Niles, and market is moderately firm at the quotations noted. Local millers are understood to be very lightly stocked.

Green Peas, California ..... 2.00 @ —  
Niles Peas ..... 2.20 @ 2.35

### Vegetables.

There were fairly liberal receipts of fresh vegetables for this time of year, mainly from Los Angeles section, including Peas, String Beans, Tomatoes, Summer Squash and Egg Plant. Market as a whole was somewhat easier than previous week, but best qualities continued to bring tolerably stiff figures. Egg Plant was mostly too large to be desirable. A little Asparagus arrived from Sacramento river section and in a small way brought fancy prices. Rhubarb was in fair supply, mostly from Alameda county. Onion market did not show much activity, and was not especially noteworthy for firmness.

Beans, Wax, per lb. .... 8 @ 10  
Beans, String, per lb. .... 7 @ 10  
Cabbage, choice garden, per 100 lbs. .... 50 @ —  
Cucumbers, per large box ..... — @ —  
Egg Plant, per lb. .... 6 @ 10  
Garlic, per lb. .... 6 @ 7  
Onions, Yellow Danver, per ctn ..... 90 @ 1.20  
Okra, Green, per small box ..... — @ —  
Peas, Sweet Garden, per lb. .... 2½ @ 5  
Peppers, Green, per lb. .... 8 @ 10  
Rhubarb, per lb. .... 4 @ 5  
Summer Squash, per small box ..... 75 @ 1.25  
Tomatoes, Bay, per large box ..... — @ —  
Tomatoes, Los Angeles, per crate ..... 75 @ 1.25

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with hand holes in the ends, and weigh when filled from 50 to 60 lbs. gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

### Potatoes.

Ordinary qualities of Burbank Seedlings were in liberal supply and market for this sort inclined against sellers. Choice to select were in very moderate receipt and were as a rule very steadily held, with spot stocks mostly in second hands. Sweet potatoes were in fairly liberal supply and went at lower figures than last quoted.

Sacramento River Burbanks ..... \$ .70 @ .90  
Salinas Burbanks, per cental ..... 1.10 @ 1.45  
Petaluma and Tomales Burbanks ..... .75 @ 1.00  
Oregon Burbanks ..... .90 @ 1.15  
Sweets ..... .75 @ 1.10

### Fresh Fruits.

The market was well stocked with Apples, but a large proportion of offerings showed very ordinary quality. For choice to select the market was favorable to the selling interest, some of very superior quality commanding in a small way above quotable values. Common qualities went at rather low figures, and then had to depend mainly on street hawkers for custom. Lady Apples were in fair request on holiday account, but only such as were well shaped, of good size, highly colored, bright and waxy, were especially sought after or could be depended on to bring top figures. Winter Nels Pears in fine condition were firmly held. Persimmons were in reduced supply, but market did not show any radical improvement as regards prices. Grapes were in rather light stock, and for good to choice the market inclined in favor of sellers. Strawberries did not make much of a showing, either as to quantity or quality. Cranberries were in good request, with only moderate stocks, and market for Eastern was higher.

Apples, fancy, per 4-tier box ..... \$ 1.50 @ 1.75  
Apples, good to choice, per 50-lb box ..... 1.25 @ 1.25  
Apples, common to fair, per 50-lb box ..... .30 @ .60  
Apples Lady, per box ..... 1.25 @ 2.00  
Cranberries, Eastern, per bbl. .... 12.00 @ 13.00  
Grapes, per crate ..... .65 @ 1.00  
Grapes, per small box ..... .50 @ .75  
Pears, Winter Nels, per 40-lb box ..... 1.25 @ 1.75  
Pears, Winter Nels, per small box ..... .50 @ .75  
Persimmons, per box ..... .50 @ 1.00  
Pomegranates, per large box ..... 1.25 @ 2.00  
Strawberries, Melinda, per chest ..... 3.00 @ 6.00

### Dried Fruits.

The wholesale market for dried fruits is showing little life and it would be phenomenal to have it any other way at this time of year. Values remain practically as previously quoted, despite the dullness. Offerings are principally Prunes of the medium sizes and choice Peaches. There are moderate stocks of Apples and Apricots. Supplies of Pears and Pitted Plums are of light proportions. After the new year has fairly opened a revival of trade is looked for. According to all advices there are no large quantities of dried fruit of any description in the hands of Eastern dealers. The steamer City of Para took 143,482 pounds Prunes for Holland, and 84,709 pounds for Germany. The steamer Ventura, bound for Australasia, took 47,400 pounds dried fruit, and 39,000



pounds were taken by steamer Queen for British Columbia.

EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4 1/4 @ 4 3/4
Apples, extra choice to fancy, 50-lb boxes.....	5 @ 5 1/2
Apricots, Moorpark.....	8 @ 10 1/2
Apricots, Royal, good to choice, 7-lb.....	6 1/4 @ 7 1/2
Apricots, Royal, fancy.....	8 @ 9
Figs, 10-lb box, 1-lb cartons.....	.55 @ 75
Nectarines, 7-lb.....	4 @ 5
Peaches, unpeeled, fair to good.....	4 @ 4 1/2
Peaches, unpeeled, choice.....	5 @ 5 1/2
Peaches, unpeeled, fancy.....	5 1/2 @ 6 1/4
Peaches, unpeeled, extra fancy.....	7 1/2 @ 8
Peaches, peeled.....	10 @ 12 1/2
Pears, halves, fancy.....	9 @ 10
Pears, halves, choice.....	7 1/2 @ 8
Pears, halves, fair to good.....	6 1/2 @ 7
Plums, Black, pitted.....	5 1/2 @ 6 1/2
Plums, Yellow, pitted.....	7 1/2 @ 8 1/2
Prunes, Silver, good to fancy.....	5 @ 7
Prunes, in bags, 4 sizes, 2 1/4 @ 2 3/4 c; 40-50s, 4 1/4 @ 4 1/2 c;	
50-60s, 3 1/2 @ 3 3/4 c; 60-70s, 3 @ 3 1/4 c; 70-80s, 2 1/2 @ 3 c;	
80-90s, 2 1/4 @ 2 1/2 c; 90-100s, 1 1/2 @ 2 c; small, 1 1/4 @ 1 1/2 c.	
COMMON SUN-DRIED.	
Apples, sliced.....	3 1/4 @ 3 1/2
Apples, quartered.....	3 1/4 @ 3 1/2
Figs, White, in bulk.....	— @ —
Figs, Black, in sacks, 7-lb.....	3 1/2 @ 4

Raisins.

Trade is of moderate volume, partly of non-Association stock, which is selling at a little lower range than quoted by the Association.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5 1/4 c. per lb.; 3-crown, 5 1/2 c. 4-crown, 6 1/4 c.; Seedless Muscatels, 4 1/4 c.; do floated, 4 1/4 c.; unbleached Sultanias, 4 1/4 c.; Thompson's Seedless, 5 1/4 c.	
Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5 1/2 c.; Valencia cured, 4 1/2 c.; Pacific do, 3 3/4 c.; Oriental do, 2 3/4 c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7 1/2 c.; 12-oz. packages, fancy, 6 1/2 c.; choice, 6 3/4 c.; in bulk, fancy, 7 3/4 c.; choice, 7 1/2 c.	

Citrus Fruits.

Orange auction sales were resumed today. There is no lack of this fruit, but it is the rare exception where it is fully ripe. Butte county oranges are being shipped to Los Angeles. Lemon market was quiet, and only for choice to select showed any firmness.

Oranges, Washington Navels, 7-lb box.....	\$1 25 @ 2 50
Oranges, Seedlings, 7-lb box.....	75 @ 1 25
Oranges, Japanese, as to size of box.....	75 @ 1 50
Lemons, California, select, 7-lb box.....	2 25 @ 2 50
Lemons, California, good to choice.....	1 50 @ 2 00
Lemons, California, fair to good.....	1 00 @ 1 50
Grape Fruit, 7-lb box.....	1 50 @ 2 50
Limes, Mexican, 7-lb box.....	4 00 @ 4 50

Nuts.

There is a good jobbing trade on holiday account in nuts of all kinds. Stocks are light.

California Almonds, shelled.....	16 @ 19
California Almonds, paper shell.....	10 @ 11
California Almonds, soft shell.....	7 @ 8
California Almonds, hard shell.....	5 @ 6
California Walnuts, soft shell.....	13 @ 14
California Walnuts, standard.....	12 @ 13
Chestnuts, California-Italian.....	8 @ 10
Peanuts, fair to prime.....	4 1/2 @ 5 1/2
Peanuts, Eastern, hand-picked.....	5 1/2 @ 6 1/2

Wine.

The California Wine Dealers' Association is stated to be not buying wine, but some of the members of the Association are buying, which is a distinction without much difference. A firm in the Association is reported having purchased 125,000 gallons of dry wine, 1903 vintage, at Cordelia, Solano county, for 15c. per gallon. Many growers are holding for better figures and considerable of the 1903 wine has been sold at a higher price. Receipts here last week were 415,000 gallons. The steamer Arizonian took 7395 barrels wine for New York. The steamer City of Para, sailing Saturday last, carried 29,722 gallons and 60 cases, mostly for New York.

Barn Plans and Outbuildings.

This is a new, revised and enlarged edition by Edwin C. Powell, and published by Orange Judd Company. After an introductory chapter on the general rules to be observed in barn building, special chapters give detailed information and illustrations on general farm barns, cattle shelters, sheep barns and sheds, piggeries, poultry houses, carriage houses and horse barns, corn houses and cribs, ice houses and cool chambers, dairy houses, creameries and cheese factories, spring houses, granaries, smoke houses, dog kennels, bird houses, silos, root cellars and root houses, cold storage houses, farmer's greenhouses, house greenhouses, etc., etc. All the descriptions and directions are plain and clear. The book can be ordered from the PACIFIC RURAL PRESS at \$1 per copy, postpaid.

Manual of Corn Judging.

A. D. Shamel, formerly crop expert at the University of Illinois, now with Plant Breeding Bureau, Department of Agriculture, at Washington, has prepared a little book with the above title, published by Orange Judd Company. The advanced methods of corn judging have been noted and all the available information on corn judging incorporated. It is especially helpful for farmers interested in improvement of corn, for corn schools, farmers'

# THE TIME TO VACCINATE AGAINST BLACK LEG IS BEFORE YOU HAVE TROUBLE.

VACCINATION IS THEN CHEAP INSURANCE (10 cents per head or less if you buy our vaccine in quantities to get discounts).

Cutter's Vaccines are California Stockmen's Favorites.

(A canvass of your neighbors will convince you on this point). They are safer and therefore cheaper than even free vaccine, because of the rigid care used in manufacturing and testing.

CUTTER'S BLACK LEG VACCINE IS SUPPLIED IN POWDER, STRING AND PILL FORM.

WE RECOMMEND OUR BLACK LEG PILLS as being the safest, most convenient and economical form of Black Leg Vaccine to use. Write for description of them and CUTTER'S SPECIAL BLACK PILL INJECTOR.

We also manufacture ANTHRAX (OR CHARBON) VACCINE, single and double. Thousands of doses of it were used this season in herds already affected with Anthrax (or Charbon), and in every instance the progress of the disease was stopped.

WRITE FOR OUR ANTHRAX AND BLACK LEG BOOKLETS, ALSO PRICES AND QUANTITY DISCOUNTS.

If your druggist has not got our vaccines, accept no substitutes, but order direct from

**THE CUTTER LABORATORY, 322B RIALTO BUILDING, SAN FRANCISCO, CAL.** } Formerly located at Fresno, but now } located at Berkeley, Cal.

## CHOICE TULARE LAKE ALFALFA SEED.

Do you want to buy your seed direct from headquarters and save money?

We are offering choice Alfalfa Seed grown about Tulare Lake in either car lots or less.

If interested, write us for samples and prices. Samples free to any address.

**KUTNER - GOLDSTEIN CO.,**  
HANFORD, CAL.  
Largest Dealers of Alfalfa Seed in the State.

institutes, etc. The book is profusely illustrated with photographs of ears of the leading varieties of corn, desirable ears contrasted to undesirable, desirable and undesirable kernels, etc. The book can be ordered from the PACIFIC RURAL PRESS at 50 cents per copy postpaid.

New Patents.

DEWEY, STRONG & Co.'s SCIENTIFIC PRESS PATENT AGENCY, 330 Market St., S. F., has official reports of the following U. S. patents issued to Pacific coast inventors:

FOR WEEK ENDING NOVEMBER 24, 1903.

744,992.—ROASTING FURNACE—D. D. & J. O. Bailey, Banner, Cal.	745,047.—AMALGAMATOR—Fletcher, Davis & Douglass, St. Clair, Nev.
744,991.—PLASTIC COMPOUND—Rosa H. Boyd, Seattle, Wash.	744,750.—PRESERVING EGGS—J. W. Green, Portland, Or.
745,035.—HARVESTER—J. H. Brammer, Hunters, Wash.	745,185.—BICYCLE—C. G. Hightower, San Mateo, Cal.
745,150.—GLOVE—F. H. Busby, S. F.	744,767.—ELEVATOR—J. W. King, Waitsburg, Wash.
745,037.—GAS GENERATOR—C. A. Butler, Port Townsend, Wash.	745,021.—VIBRATOR—J. J. Lewin, Palo Alto, Cal.
744,907.—TRUCK—P. Dahle, Eureka, Cal.	744,925.—DRILLING TOOL—D. L. Luddington, Grass Valley, Cal.
745,043.—STEAM BOILER—W. Dobler, Sumner, Wash.	744,774.—VEGETABLE GRATER—H. H. Lyon, Riverside, Cal.
745,169.—ORE FEEDER—C. Z. Ellis, Berkeley, Cal.	744,783.—CAMERA—W. E. Mulholland, Juneau, Alaska.
745,047.—FARM GATE—B. H. Pursell, Napa, Cal.	745,283.—WATER WHEEL—L. Oliver, Ontario, Or.

744,877.—CARBURETOR—E. D. Parrott, Portland, Or.	745,506.—BOTTLE—I. N. Burke, Butcher Ranch, Cal.
745,077.—RHEOSTAT—W. A. Sherlock, S. F.	745,428.—HINGE—A. F. Enquist, S. F.
745,126.—PLASTERING TOOL—W. A. Warson, Seattle, Wash.	745,600.—CIGAR LIGHTER—J. W. Gray, S. F.
745,128.—ELECTRIC TREATMENT—L. Williams, Seattle, Wash.	745,601.—STERILIZER—L. L. Gross, Petaluma, Cal.

FOR THE WEEK ENDING DECEMBER 1, 1903.

745,471.—FENCE—I. B. Abraham, S. F.	745,615.—DENTAL DIES—C. A. Holmes, Seattle, Wash.
745,472.—TREATING ORES—W. H. Adams, Jr., Los Angeles, Cal.	745,505.—CUTTING CAN ENDS—J. Lee, S. F.
745,568.—BOTTLE—I. N. Burke, Butcher Ranch, Cal.	745,870.—SEPARATOR—L. P. Lowe, S. F.
745,428.—HINGE—A. F. Enquist, S. F.	745,618.—STOVE SUPPORT—D. C. McFarland, Lebanon, Or.
745,600.—CIGAR LIGHTER—J. W. Gray, S. F.	745,510.—TRACTION WHEEL—D. W. McLaughlin, S. F.
745,601.—STERILIZER—L. L. Gross, Petaluma, Cal.	745,511.—STEERING WHEEL—D. W. McLaughlin, S. F.
745,346.—LATHE CHUCK—C. C. Harris, Ukiah, Cal.	745,641.—DRYING FRAME—E. A. Messerly, Santa Barbara, Cal.
745,615.—DENTAL DIES—C. A. Holmes, Seattle, Wash.	745,647.—FASTENING JAR CAPS—R. Murr, Seattle, Wash.
745,505.—CUTTING CAN ENDS—J. Lee, S. F.	745,518.—BURNER—F. B. Pettingill, Los Angeles, Cal.
745,870.—SEPARATOR—L. P. Lowe, S. F.	745,906.—BEVEL SIDING HEAD—E. C. Price, Eureka, Cal.
745,618.—STOVE SUPPORT—D. C. McFarland, Lebanon, Or.	745,663.—FARM GATE—B. H. Pursell, Napa, Cal.
745,510.—TRACTION WHEEL—D. W. McLaughlin, S. F.	745,678.—MOLDER'S TOOL—L. A. Schulze, S. F.
745,511.—STEERING WHEEL—D. W. McLaughlin, S. F.	745,679.—MOLDER'S STICK—L. A. Schulze, S. F.
745,641.—DRYING FRAME—E. A. Messerly, Santa Barbara, Cal.	745,680.—CLOCK—H. Schumacher, S. F.
745,647.—FASTENING JAR CAPS—R. Murr, Seattle, Wash.	745,918.—WIRE HOLDER—J. Sharp, Portland, Or.
745,518.—BURNER—F. B. Pettingill, Los Angeles, Cal.	745,682.—WATER HEATER—M. H. Shoenberg, S. F.
745,906.—BEVEL SIDING HEAD—E. C. Price, Eureka, Cal.	745,392.—LOCOMOTIVE TENDER—H. J. Small, S. F.
745,663.—FARM GATE—B. H. Pursell, Napa, Cal.	745,919.—PAINTING SHINGLES—B. F. Smith, Seattle, Wash.
745,678.—MOLDER'S TOOL—L. A. Schulze, S. F.	745,688.—CAMERA—A. L. Swartz, Junction City, Or.
745,679.—MOLDER'S STICK—L. A. Schulze, S. F.	745,463.—WIRELESS TELEGRAPH—G. T. Swenson, San Pedro, Cal.
745,680.—CLOCK—H. Schumacher, S. F.	745,949.—GOLD SEPARATOR—M. O. Wright, Sultan, Wash.
745,918.—WIRE HOLDER—J. Sharp, Portland, Or.	745,710.—ORE CRUSHER—H. Yarnell, Pasadena, Wash.

"Irrigation Engineering," by Herbert M. Wilson, C. E., is the title of the fourth edition of the work on this subject. It treats of the precipitation, runoff and stream flow of water; evaporation, absorption and seepage, drainage and sedimentation; flow and measurement of water in open channels, etc., canals and canal works; application of water and irrigation; storage reservoirs, dams and their construction, pumping, etc. It also contains numerous valuable tables; profusely illustrated; 573 + XVII pages; \$4. John Wiley & Sons, New York; Chapman & Hall, Ltd., London.

## MALTHOID ROOFING

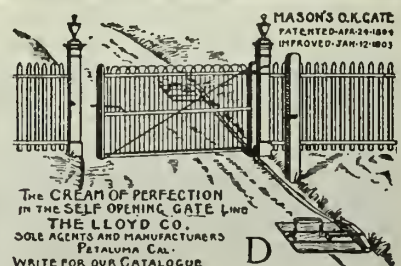


For all climates; heat, cold, rain, gases, fumes and fire do not affect it. Comes in rolls ready for laying. Low freight charges. Inexpensive to apply, cheap in the first place and lasts for years.

Send for booklet.

The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.



**THE FIVE BOTTOM WIRES**  
in Page Hog Fences are only three inches apart. That's closer, and catches small pigs. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.



**SHARPLES TUBULAR FARM SEPARATORS**

**Right Now**

we are ready to show you wherein the Tubular is better than other separators and why thousands of dairymen buy them in preference to other separators. We don't ask you to buy as a favor to us or for any other reason than that

**THE TUBULAR**

is a different machine from the others and one that is sold on the strength of what it is "Right Now." Send for catalog 131.

**The Sharples Co.** Chicago, Ill. **P. M. Sharples,** West Chester, Pa.

## FORESTRY.

### Government Work in California.

William C. Hodge, who is in charge of the United States forestry work within the State of California, has submitted the following report of the season's work to the California State Board of Examiners:

Since the 1st of July the Bureau of Forestry has had field parties in California engaged in forest work in co-operation with the State. In order to gain at the outset a general view of forest conditions and requirements in California, the parties were distributed in various places throughout the State. The southern mountains, the Sierra and the Coast ranges in northern California have all received attention.

**EXTENT OF FORESTS.**—Before any forest policy can be formed or carried out, knowledge must be had of the extent and character of the forests. To this end a considerable area has already been traversed and the forested areas indicated on maps, with descriptions accompanying them. The unit of map work is the township, and the usual scale 1 mile to the inch. The various types and densities of forests, together with the agricultural and pasture land, are represented on each township by different colors. Notes accompany each township map, describing the condition and needs of the forest and giving an estimate of the amount of standing timber. Notes are also made on various forest problems, as grazing, relation of forests to water flow, fire and fire protection, etc., which will later be combined into monographs on these subjects. The northern half of Sonoma county, all of Mendocino county and Humboldt county as far north as Scotia have been examined, township by township, in this way. Similar work has been done in the Sierra from Lake Tahoe northward, and in Siskiyou, Shasta and Trinity counties. Much of this territory was examined at the same time with reference to its fitness for use as forest reserves. Map work has also progressed in the south in connection with the work being done here. Every forested township in the State will be examined, mapped and described in this way.

**VALUE OF CHAPARRAL.**—In the southern mountains, where the influence of forest cover on water supply is particularly vital, a detailed study is being made of the chaparral-covered mountain sides for the purpose of discovering the value of chaparral as a water conserver and the practicability of restoring tree growth either by natural reproduction or by planting. The San Gabriel mountains were selected for this study, as controlling a highly important watershed and offering the greatest difficulties. Work will be continued there through the winter.

**STUDY OF THE EUCALYPTUS.**—A study of planted eucalyptus will be completed this winter. The object of this study is to show what yields of wood may be expected at different ages and for different qualities of soil, and what rate of interest a grove of eucalyptus may be expected to pay. Measurements are to be taken of practically every grove in the State of more than two acres' area.

**FOREST FIRES.**—Everywhere through-

out the State the forest fire problem is most important. Money spent in planting will be in constant jeopardy unless protection of the young trees from fire is assured, and it will be difficult in interesting lumbermen in taking care to secure second growth unless danger from fire is eliminated. Methods of fire fighting and fire protection have been devised and put in operation by certain owners of forest land in California, and it is the desire of the bureau to collect this information and correct or supplement it.

Since the 1st of October Mr. Sterling of the Bureau of Forestry has been engaged on this work.

The fire question is to be handled rather from a practical than from an academic point of view.

**SECOND CROP OF TREES.**—Next to the question of fire, the most important forestry measure is to provide for a second crop of trees after lumbering the first crop. It is undoubtedly possible to devise certain forestry regulations which would insure adequate reproduction, provided fire was kept out. Before the forestry regulations can be outlined, preliminary study must be made of the habits of the trees which it is desired to reproduce. The work of gathering this material has been begun by Mr. Tompkins. Both he and Mr. Sterling are receiving valuable aid from lumber companies which are interested in the work. The study of lumbering, like the study of forest fires, will be conducted on practical grounds.

### Pioneer Cattleman.

Levi Samuel Bacon Slusser, one of the noted pioneers of California, died Dec. 6. A Santa Rosa dispatch says Mr. Slusser reached this State in the spring of 1847 and returned to the East in 1851 to bring cattle to California. He came to Sonoma county in 1847, but later went to the mines on the Feather, American and Yuba rivers, where he remained for many months. In 1855 he returned to his native State of Pennsylvania and there was married to Miss Sarah Bowring, who passed away at the old home place on Mark West creek in 1883.

Slusser was 84 years and 9 months of age at the time of his death and has been a resident of this vicinity continuously for over fifty years.

## HORSE COLIC,



Distemper, Founder, Pneumonia, etc., as well as all forms of Lameness, Contracted Cord, Curb, Splint, etc., are instantly relieved, and invariably cured by the use of

**Tuttle's Elixir.**

Satisfaction guaranteed or money refunded. Used and endorsed by the Adams Express Company. Used by leading breeders and turfmen everywhere. Has saved and cured many valuable horses. May do likewise for you.

**TUTTLE'S FAMILY ELIXIR** cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience" FREE.

Dr. S. A. TUTTLE, 33 Beverly St., Boston, Mass.  
487 O'Farrell St., San Francisco, Cal.  
Beware of so-called Elixirs—none genuine but Tuttle's. Avoid all blisters; they offer only temporary relief, if any.

## SAWS

ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 5 ft. Through

1 MAN with a FOLDING SAWING MACHINE BEATS 2 MEN with a Cross-cut Saw 5 to 9 cords daily is the usual average for one man. SAVES DOWN TREES

Backache weighs only 41 lbs. EASILY CARRIED

Our 1904 Model Machine saws faster, runs easier & will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency. Folding Sawing Mach. Co. 55 N. Jefferson St., Chicago, Ill.

## DR. WILLIAMS SCOUR CURE.

THE ONLY RELIABLE REMEDY FOR Diarrhoea, Dysentery, Bloody Flux, White Scours, Etc., of Calves, Foals and other Young Animals.

Full directions with each bottle.

ORDER THROUGH YOUR DRUGGIST, OR SENT BY EXPRESS PREPAID.

Price \$1 a Bottle!

Prepared by E. O. Webb, Jr., Ph. G., Petaluma, Cal.



## CALVES THRIVE

on the warm sweet skimmilk from

## THE U. S. CREAM SEPARATOR

It contains no butter-fat, but the value of the extra fat that the U. S. gets over other separators will more than pay for the meal to balance the ration and make the skimmilk as good or better for calves than whole milk. If you keep cows, to get the best results it is necessary to have a

## U. S. SEPARATOR

It skims the cleanest.

Wears the longest.

Is the most profitable.

For further particulars write for catalogue.

We transfer our separators from Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Hamilton, Ont., Montreal, Sherbrooke and Quebec City. Address all letters to

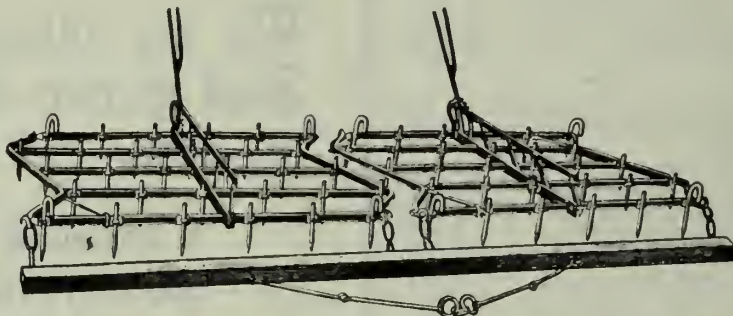
**Vermont Farm Machine Co.,**

**BELLOWS FALLS, VT.**

344



*Hooker & Co.*  
16 & 18 DRUMM ST.  
SAN FRANCISCO.



## Orchard Lever "U" Bar Harrow with Channel Frame.

For orchard work we furnish guard rails on outer sides to prevent injury to trees.

## THE STRONGEST ORCHARD HARROW MADE!

**Hooker & Co.**

16 & 18 DRUMM ST., SAN FRANCISCO.

## PORTABLE BUILDINGS

No. 46 Another of our ten stock sizes. We make plans and estimates for special sizes. These houses are suitable for all climates. They are strong and substantial, built entirely of wood, roofed with the best material. Windows and doors can be placed where desired. Anyone can set them up.

Send for Illustrated Catalogue, with Prices.

**BURNHAM-STANFORD CO.,**

Manufacturers, Washington St., bet. 1st and 2nd, OAKLAND, CAL.

San Francisco Office, 40 New Montgomery St.



## WONDER OF THE AGE.

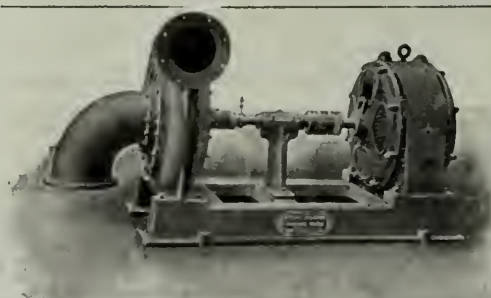
JACKSON'S LATEST IMPROVED CENTRIFUGAL PUMP for raising water from 10 feet to 2000 feet.

Efficiency 70 to 84%, if properly installed.

For irrigating, reclamation, mining, etc.

**BYRON JACKSON MACHINE WORKS,**

411 Market St., San Francisco.



Jackson Patent Special Horizontal Centrifugal Pump Direct Connected to Motor.



## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard, 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. **Wm. Niles & Co.,** Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A.J.C.C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER SAXE & SON,** Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S.F. Animals for sale.

## SWINE.

**PERKINS & CO.,** Sacramento, Cal. Twenty-five exhibits and eighteen premiums on Berkshires. Stock for sale.

**THE SAN GABRIEL VALLEY HERD OF** Ohio Poland-Chinas won 10 premiums at the State Fair at Sacramento in 1903; won gold and silver medal. Young stock for sale. W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. **Wm. Niles & Co.,** Los Angeles, Cal. Established in 1876.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

## POULTRY.

**BARRED P. ROCKS,** F. Fisher, Carlsbad, Cal. **BUFF** Orpingtons, Sunbeam Yards, Carlsbad, Cal.

**SAMUEL M. COPPIN,** Cottonwood Farm, via Pleasant Grove, Cal. Choice fowls.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**WHITE MINORCAS,** Pelkin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$7.00 per 100; \$90.00 per 1000. Send for folder giving prize record from 1899 to Sept., 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

## SHEEP AND GOATS.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

## BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in **Poultry Supplies** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2602, San Francisco. M'n'rs of Pacific Incubator and Brooder. Send for Catalogue.

## California's Finest Holsteins

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records.

Young Bulls for sale.  
**PIERCE LAND AND STOCK CO.,**  
No. 14 Turk Street, San Francisco, Cal.

## SPRAYING--- A NEW IDEA.



## HOQUE'S EYE PROTECTOR.

Absolute Protection from Poisonous Sprays.

Adjustable to any eyes. Made of finest optical glass. Will not rust. Will last for years. Send for Price List.

**HOQUE OPTICAL CO.,**  
211 Post St., San Francisco, Cal.

## BULLS FOR SALE.

Registered and High-Grade SHORTHORNS.

All Inoculated for Texas Fever, at CHOWHILLA STOCK FARM.

Address.. **ISAAC BIRD,** Merced, Cal.

## FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bul. calves from 3 months to 1 year old. Come and see the stock

Phone RED 123. **J. W. McCORD,** Hanford, Cal.

## Must Hatch Incubator.

Send for 1904 Catalogue D if interested in poultry raising—40 pages of valuable information FREE.

**MUST HATCH INCUBATOR CO.,**  
PETALUMA, CAL.

## "VICTORIOUS IOWA"

A good name for the Iowa Round Incubator that so often out-hatches its keenest competitors. Any questions? Our new catalogue answers them all. It is free—send for it.

**Iowa Incubator Co.**  
Box 242, Des Moines, Ia.



## FOUND \$7. FOR

A CREAM SEPARATOR that does the work perfectly, AUTOMATICALLY, without power or chemicals, in 30 minutes. **GUARANTEED.** Agents wanted, either sex. Address **TALLEY SPECIALTY CO.,** Dept. G Los Angeles, California.



Not to be compared to the ordinary Fresno Scraper offered on this coast. Heavier material, stiffer and superior construction. Runners in back of bowl.

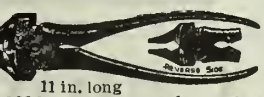


"Fresno" Improved Scraper.

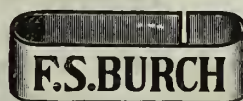
3 1/2-foot, 4-foot and 5-foot. Send for Catalogue.

**HOOKE & CO.,** SAN FRANCISCO.

## CRONK'S Improved Staple Puller

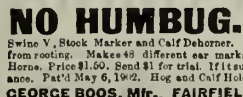


11 in. long **IS AT THE FRONT.** Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull staples when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid **CRONK & CARRIER MFG. CO.,** Elmira, N. Y.



## Ear Labels

for SHEEP, HOGS and CATTLE, from \$1.00 per 100 up. Best on the market. Send for Free Catalogue Stockmen's Supplies. **F. S. BURCH & CO.,** 144 Illinois St., Chicago



**NO HUMBUG.** Farmer's Brighten's Swine V. Stock Marker and Calf Dehorner. Slope swine from rooting. Makes 48 different ear marks. Extracts Horses. Price \$1.50. Send \$1 for trial. If it suits, send balance. Paid May 6, 1902. Hog and Calf Holder only 75c. **GEORGE BOOS, Mfr.,** FAIRFIELD, IOWA.

## CHEAP RATES

California, Washington Oregon, Colorado. We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

**TRANS-CONTINENTAL FREIGHT CO.,**  
G 26 Montgomery St., San Francisco.  
G 325 Dearborn St., Chicago.  
G 338 So. Broadway, Los Angeles.

The Unwise Dairyman never thinks when he buys.  
The Wise Dairyman often thinks too long before he buys.  
The Wiser Dairyman buys a De Laval first and thinks afterwards.

## THE DAIRYMAN'S ENDORSEMENT.

400,000 machines in use.  
Ten times the number of all other makes combined.

## De Laval Cream Separators



Combined with patents "Alpha-Disc" and "Split-Wing" improvements. The standard of perfection in modern dairying machines.

Insures purity of product, saves time, labor and worry. Increases the value of every cow.

PERFECTION IN CONSTRUCTION.  
POSITIVE IN PERFORMANCE.  
ECONOMICAL TO MAINTAIN.

A DE LAVAL Catalogue may be had for the asking. A lesson in dairying on every page.

The largest and most complete stock of dairy apparatus and supplies on the Pacific coast carried by us. Full line constantly on hand.

Write for our catalogue—tells you lots about dairying.

## DE LAVAL DAIRY SUPPLY COMPANY,

9-11 Drumm St.  
SAN FRANCISCO, CAL.

65 Front St.  
PORTLAND, ORE.

## PROFITS FROM POULTRY

Depends Upon How and What You Feed.

**Coulson's Egg Food**, a balanced ration or ready mixed feed for laying hens, is what makes the hens lay lots of eggs; and now that eggs are bringing a good price you should purchase a ton or two of this feed and make some money out of your hens this fall.

When you start to raising little chicks, try feeding them **Coulson's Chick Food** and see them grow. Coulson's Chick Food is a mixture of 14 different grains, seeds and meals, machinery mixed and proportioned so as to meet all the needs of growing little chicks and to fully nourish them.

125 AGENCIES IN CALIFORNIA. Send address for Illustrated Catalogue and Poultry Account Book, Free.

**A. R. COULSON CO., Inc.,** Petaluma, Cal.

**Emery's Poultry Foods** are sold by all dealers and commission men because they are the **BEST**

MANUFACTURED BY

**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.

IF You vaccinate your stock,  
You contemplate vaccinating,  
You desire information about vaccines,

WRITE US.

OUR VACCINES ARE THE LOWEST PRICED, RELIABLE GOODS ON THE MARKET.

The United States Vaccine Company, Inc.

Kirke, Geary & Co., Sacramento.  
Western Wholesale Drug Co., Los Angeles.

FRESNO, CAL.

Black Leg Vaccine  
PASTEUR VACCINE CO. CHICAGO  
SAN FRANCISCO.

## PATENTS

Obtained in all civilized countries. Expense saved inventors by preliminary searches. Communications confidential. Inventors' guide free on request. **DEWEY, STRONG & CO.** (Established 1860), 330 Market Street, San Francisco, Cal., and 918 F Street, Washington, D. C.



## Patrons of Husbandry.

### Tulare Grange.

TO THE EDITOR:—On Saturday Tulare and Selma Granges held a joint session in Tulare and conferred in an impressive manner the third and fourth degrees on a class of two and participated in an excellent, typical Granger harvest feast.

It being the anniversary of the birthday of the Order of Patrons of Husbandry, the time was enjoyably spent in conversation, social intercourse and music (vocal and instrumental) by the members of both Granges. Addresses by Worthy Masters Styles of Tulare Grange and Patton of Selma Grange and talk on the work of the Grange, past and present, by Brothers Abbot of Selma and Tuohy of Tulare.

No discussion of the subject of the day was taken up. J. F.

### At the National Grange.

TO THE EDITOR:—The National Grange, which has a membership of about 700,000, has just been held at Rochester, N. Y. John S. Dore and wife from the California State Grange

were among the Californians in attendance.

The next National Grange will come to the Pacific coast in Portland, Or.

The question of a local Grange is being discussed again. The remark was made by one resident that barbers, bricklayers, mechanics, "hello" girls and everybody else but farmers have their clubs, why not the tillers of the soil? In the Grange not only farmers, but their wives, sons and daughters meet for interchange of views on practical subjects, and cultivate literary and musical lines, as well as sociability. Fresno county. WEST PARK.

### Curing Small Skins.

TO THE EDITOR:—Kindly tell me how to cure rabbit or other small skins. I have tried a recipe found in the PACIFIC RURAL PRESS some time ago—a solution of salt, alum, saltpetre and corrosive sublimate. After soaking three weeks, according to directions, and rinsing with water, the skin and fur came out soft and nice, but unless kept in a warm, dry room they gather moisture and become very wet. What is the trouble? Is there not some better way? SUBSCRIBER.

Oakland.

We hope some experienced reader will help in this matter.

## Seeds, Plants, Etc.

### Berry Plants.

STRAWBERRY (MALINDA, BRANDYWINE).

LOGANS,

MAMMOTH BLACKBERRY,

LAWTON BLACKBERRY,

RED RASPBERRY (Cuthbert),

"PRIMUS" BLACKBERRY.

Something new. Fruiting season earlier than any other Blackberry. Money maker. Bushes incline to trailing habit. Send for descriptive circular.

Address O. O. EATON, Watsonville, Cal.

### BLUE GUMS. RED GUMS.

Monterey Cypress—Transplanted in Boxes.

WRITE FOR PRICES.

Delivered on Wharf in San Francisco.

W. A. REINHOLDT, Petaluma, Cal.

### Burbank's New Productions.

Phenomenal and Mammoth Blackberry Plants. Primus and Dewberry (May's Hybrid and Lucretia).

WRITE FOR PRICES.

"FAIROAKS BERRY FARM." FAIROAKS, CAL.

### OAK MOUND NURSERY,

Lakeport, Cal. ROBT. P. EACHUS, Prop.

I have to offer, retail and wholesale, BARTLETT PEAR TREES, one year old, 4 to 7 feet, on whole roots as good as can be grown. A few hundred first-class APPLE TREES, also MAMMOTH and LOGAN BERRY TIPS, WELL ROOTED VINES.

Write for Prices!

### PHILLIPS CLING

and other Nursery Trees at

REDUCED PRICES!

THE CROCKER BARTLETT PEAR a specialty!

L. L. CROCKER, Loomis, Cal.

## WE MAKE A SPECIALTY

—OF THE—

GENUINE COMMERCIAL

### Smyrna Fig Tree.

Our price is \$15.00 per 100; smaller lots, 25c each.

We also have a large stock of Muir and Phillips Cling Peaches, Royal Apricots and Bartlett Pears, which we will sell at low figures. Send list of your wants and get our price.

MAYWOOD COLONY NURSERY,

W. HERBERT SAMSON, Prop.

## TREES

—AND—

## VINES.

LEADING  
COMMERCIAL  
VARIETIES.

Silva & Bergholdt Co.

NEWCASTLE, CALIFORNIA.

Write for Price List.

### BERRY PLANTS

Logans, and Gray's Gardena Dewberries SPECIALTIES.

These Dewberries have produced over 5 tons of fruit on 1/2 acre. For descriptive list, address

W. J. EMBREE, Rural Box 61, El Monte, Los Angeles Co., Cal.

RIVERSIDE NURSERY, 320 River Street, Santa Cruz, Cal.

5000 Apple Trees,

\$10 per 100.

4 to 6 ft., Extra Well Rooted; Clean; Grafted on Whole Roots and Free from All Pests.

Yellow Bellflower, Y. N. Pippin.

Refer to City Bank,

Santa Cruz.

HENRY SHAW.

ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK Rocky Ford, Colo.

# TREES

FRUIT and ORNAMENTAL  
SHADE TREES for  
STREET and ROADSIDE.

Olives, Oranges, Lemons, Grape Vines, Resisting Vines.

## NUT TREES

JORDAN ALMOND, CHESTNUT, WALNUT AND PISTACHIO NUT.

Complete Stock of Large Palms, Evergreens, Roses, Climbers and Flowering Shrubs.

New Catalogue of 72 Pages Mailed Free.

## CALIFORNIA NURSERY CO., Niles, Cal.

JOHN ROCK, Manager.



### PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased to send you one.

SAN DIMAS CITRUS NURSERIES

San Dimas, Cal.

## OREGON NURSERY CO.

SOLE PROPRIETORS AND INTRODUCERS OF  
BURBANK'S NEW PLUM-MAYNARD

THE GREAT FROST-RESISTING  
**TILTON APRICOT**

Also the most complete line of Deciduous Fruit, Shade and Ornamental Trees, Shrubs, Plants, etc., on the Pacific Coast. See our Traveling Salesman, or write for complete catalogue and price list. Address

**SALEM OREGON**

No. 6—12th Street.

## CHICO NURSERY CO. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS, BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get swamped with work next spring?

BUY  
STURDY  
CHICO  
TREES.

CHICO NURSERY CO., 1200--3rd St. Chico, Cal.

## California Fruits.

NEW EDITION (3rd). LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—  
GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

Price, \$2.00 Postpaid

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.

# TREES.

GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

# BULBS

FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

TRUMBULL & BEEBE,

Seedsmen and Nurserymen, 419-421 Sansome St., San Francisco.

APPLE,  
CHERRY,  
PEACH,

PLUM,  
PRUNE,  
APRICOT.



## Seeds, Plants, Etc.

PEACH. Phillips Cling, Levy's and Muir.

ALMOND. I. X. L., Non Pareil, Ne Plus Ultra, Drake's Seedling.

PRUNES. French and Sugar.

COTS. Blenheim and Royal.

APPLES. Leading sorts.

Large stock of Roses and Ornamentals.

Buy the RIGHT trees at the RIGHT price.

SEEDS of all kinds.

Send name for 1904 catalogue. 200 illustrations. Ready January 1st.

COX SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.NAPA VALLEY  
NURSERY CO.

INCORPORATED 1902.

Fruit Trees and Grape Vines,

Resistant Rooted Stock,

RUPESTRIS ST. GEORGE,  
GLOIRE MONTPELIERLOGAN BERRIES, MAMMOTH BLACKBERRIES  
and other small Berries.

Write for Price List!

NAPA, CALIFORNIA.

ESTABLISHED 1876.

THE

## Myrobolan Nursery

JAS. O'NEILL, Prop.

Haywards, Alameda Co., Cal.

Grower of the Leading Varieties of

Deciduous Fruit Trees.

No Irrigation,

Free from Borers, Other Pests or Disease.

Specialty: Apricots and Prunes on Myrobolan Root.

Estimates Furnished on all Lists.

Inspection of Stock Invited Before Purchasing.

Correspondence Solicited.

## TREES.

WALNUT AND APRICOT,

SELLING FAST.

We carry a full line of all leading varieties of  
Citrus, Deciduous and Ornamental Stock.

Get our prices before buying. Price list free.

Orange County Nurseries,

RICHMAN &amp; MILLS, Proprietors,

FULLERTON, CAL.

## SEBASTOPOL NURSERIES

is the place to get

Aphis Resistant  
Apple Stock,

Also

General Assortment of Nursery Stock.

SEND FOR PRICE LIST.

T. J. TRUE, Prop., Sebastopol, Cal.

## WAGNER'S NURSERY,

Pasadena, Cal.

Is offering the cleanest and best line of Citrus Trees  
in California on Sweet, Pomelo or Trifoliata Root.  
By using Trifoliata Root you insure yourself better  
crops and no injury from frost.Also full line of other Fruit Trees and Berry  
Plants. Drop us a card if interested.  
Telephone Suburban 108.

## DECIDUOUS

## Trees

FOR SEASON 1903-04.

Our stock of all varieties of trees is large. Year by year we have tried to anticipate a large and growing business, and this season we feel confident that planters will find our stock unusually complete and far above the average in grade and appearance.

## WINTER BARTLETT PEARS.

Have you heard about them? Of all pears of recent introduction this pear takes the lead. It does not ripen until November, and will keep two months after picking. We have a good stock, but orders should be booked early.

## PLUMS.

Plums ought to be more extensively planted. Pitted dried plums are always a scarce article on the market, and the demand exceeds the supply.

## BURBANK'S SUGAR PRUNE.

This is a great leader. The fruit is larger, sweeter, and ripens fully three weeks earlier than the French Prune. No danger of having your fruit damaged by rains when drying if you plant the Sugar Prune.

## APRICOTS.

Apricots sold well this year. California has a strong hold on 'eots, being the only State in the Union producing them. We grow all the standard varieties—Blenheim, Royal, Routier Peach. The Tilton, a new introduction, and highly esteemed in Kings county, is worthy of trial.

## PEACHES.

The canners want more Clings; couldn't get enough this year of Tuscan, Phillips, Orange and McDevitts. You can make no mistake in planting Clings if there is a cannery in your vicinity.

The Triumph is one of the finest early peaches grown, much larger than Yellow St. John, and two weeks earlier. A great shipping peach.

Canners never get enough Foster peaches. They can well have a fine color and most delicious flavor. Better look into their merits.

The Elberta, Muir, Wheatland and Lovell peaches are old standbys for canning, drying and shipping. Our buds are taken from bearing trees. You take no chances when you buy from us.

## CHERRIES.

Cherries are in great demand now. Fruit on the trees sold for from four to five cents per pound this season. Many coast counties are wonderfully well adapted for cherries.

SEND FOR OUR LARGE ILLUSTRATED GENERAL TREE CATALOGUE, POSTPAID 5c.

Until you have seen our catalogue you do not realize what a helpful book a catalogue is to tree planters. We have been told a good many times that this is the most complete catalogue in many ways that has ever been printed in the West. It is unlike any other in that it is more carefully compiled, lists more trees, is easier to consult, and contains more practical information. We shall be pleased to answer any questions of intending planters.

PAID-UP CAPITAL STOCK, \$200,000.

## Fancher Creek Nurseries, Inc.

GEO. C. ROEDING, Pres. and Gen. Mgr.

P. O. Box 18, FRESNO, CAL.

## Fresno Nurseries.

ESTABLISHED 1889.

SPECIALTIES---DECIDUOUS FRUIT TREES AND ROOTED VINES.

APRICOTS, on Apricot, Peach and Myrobolan roots.

PEACHES, on Peach and Almond.

PRUNES, on Almond, Myrobolan, Peach and Apricot.

ALMONDS, on Peach and Almond.

NECTARINES, APPLES, CHERRIES, PLUMS, PEARS, FIGS, ETC.

ROOTED VINES—Wine, Table and Raisin Varieties.

We Have the True Commercial Smyrna Fig.

SEND FOR PRICE LIST AND CATALOGUE.

Address

FRESNO NURSERIES, F. H. WILSON,

Proprietor.

P. O. BOX 42, FRESNO, CAL.

## FRUIT TREES, All Kinds.

LET US PRICE YOUR LIST OF WANTS.

MAYBE WE CAN SAVE YOU SOME MONEY.

1904 CATALOG NOW READY.

SPECIAL PRICES TO  
LARGE PLANTERS.

PIONEER NURSERIES CO., Salt Lake City, Utah.

## CITRUS

## Trees

## ORNAMENTAL

## Trees

YOU CAN  
PLACE  
ORDERS  
WITH US  
NOW FOR  
ANYTHING  
IN THE  
TREE LINEORANGES  
LEMONS  
GRAPE FRUIT  
CITRON  
OLIVES  
PERSIMMONS  
BERRY PLANTS  
LOQUATS  
ALMONDS  
QUINCES  
APPLES  
PEARS  
PLUMS  
PEACHES  
APRICOTS  
GRAPE VINES  
ORNAMENTAL  
TREES  
ROSE BUSHES  
"ANYTHING  
THAT  
GROWS"

## CALIMYRNA FIG TREES.

(The Genuine Smyrna Fig of  
Commerce).

To give this fig the distinction it deserves, and at the same time to honor California, the State in which it was produced, we have named it "Calimyrna," a combination of the two words—California and Smyrna.

Think for a moment what the Washington Navel orange has meant to the great fruit industry of California and you will get some idea of the importance that should be attached to the Calimyrna Fig, which was originated by Mr. Roeding.

When a man originates a good thing there are always imitators who claim to have something just as good. This is true in the tree business. The only difference is you cannot eat fig trees and tell what they are, neither can you decide with the closest scrutiny whether what you are buying is as represented. When you buy trees bear in mind that it is not like buying groceries or hardware—you must wait three years before you know your fate.

Remember we have the only genuine Calimyrna orchard in bearing in the United States.

When you buy Calimyrna Fig trees you want to be sure you are getting the genuine article. You know that trees, the identity of which is doubtful, are expensive at any price.

The first cost of a tree is a minor matter—it is the time, money and labor that you put into your orchard after it is planted that counts.

You may satisfy yourself as to the merits of these Calimyrna dried figs by sending to us for a sample box, which is sent to any address postpaid on receipt of 20 cents.

In order to protect the planter as well as ourselves we have devised a seal, so you will find all of our Calimyrna Fig trees this season branded—

CALIMYRNA,  
ROEDING,  
FRESNO.

None genuine without this seal.

The book entitled "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, is full of valuable information and will be found very interesting and helpful to those who are thinking of planting figs or who are in doubt as to what to plant for a profitable crop. Price 25 cents postpaid.

## FERRY'S

## Seeds

Cost more—yield more—  
save all experimenting—  
save disappointments. 48  
years the Standard Seeds.  
Sold by all dealers. 1904  
Seed Annual postpaid free,  
to all applicants.D. M. FERRY & CO.,  
Detroit, Mich.Blue Gums, Red Gums, Monterey Pines,  
Monterey Cypress,ALL IN FINE SHIPPING CONDITION; TRANS  
PLANTED IN BOXES OF 100 EACH.Our stock is very large. Write for prices, stating  
quantity wanted, delivered at San Francisco.

W. A. T. STRATTON, PETALUMA, CAL.

## BARGAINS IN BERRY PLANTS

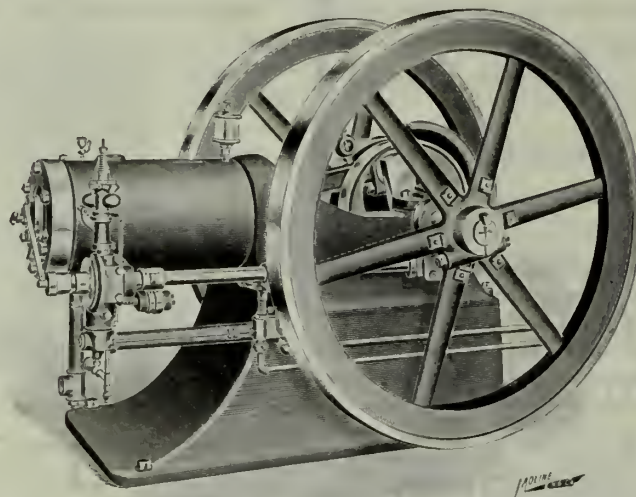
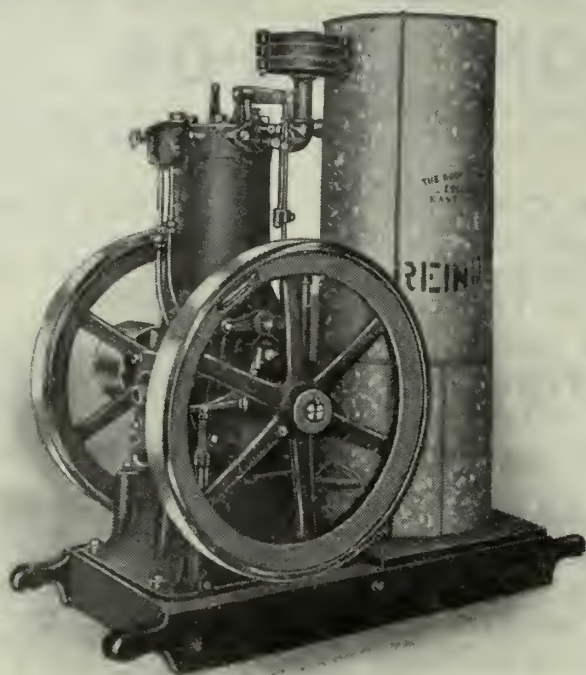
100,000 on hand. Price 2 cents each. Lawton  
Blackberry and Cuthbert Raspberries, \$5.00 per M.  
Loganberry tips, \$15.00 per M. Address

T. E. BARLOW, Sebastopol, Cal.



# "R" AND "V" GAS, GASOLINE AND DISTILLATE ENGINES.

VERTICAL AND HORIZONTAL.



FROM ONE TO TWENTY-FIVE HORSE POWER.

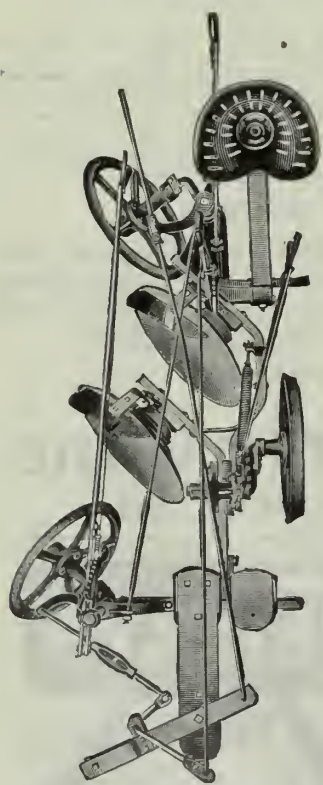
ADAPTED FOR ALL PURPOSES WHERE POWER IS REQUIRED.

Exclusive contracts made in all open territory. Special Catalogue furnished on application.

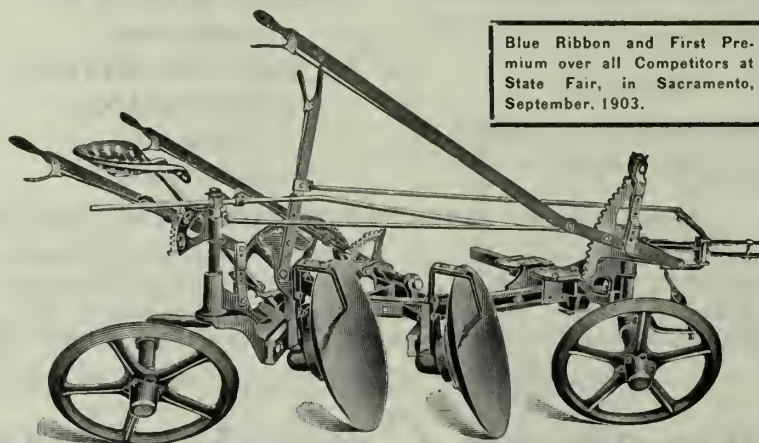
## Deere Implement Company

GENERAL AGENTS,

SAN FRANCISCO.



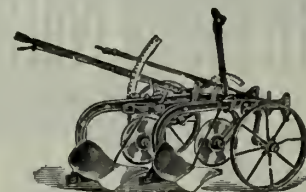
LA CROSSE DISC PLOW.  
Orchard Style --Top View.



LA CROSSE TWO-DISC PLOW (Field Style).

We can supply 1-2-3-4-5 or 6-Disc Plows.  
Notice the perfect land guage and leveling lever  
on rear wheel.

Blue Ribbon and First Premium over all Competitors at State Fair, in Sacramento, September, 1903.



"Canton Clipper" 2-Furrow Gang Plow



"Canton Success" Sulky Plow.



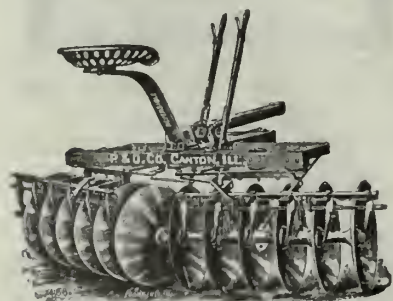
"York" Spring Tooth Lever Harrow, with Wheels.



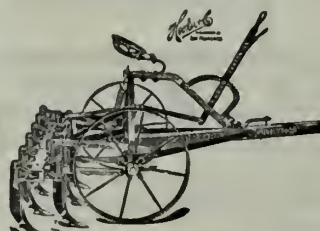
"Canton" Pony Disc Harrow.



No 38--"H & B" Pony Orchard and Vineyard Gang Plow.



"Canton" Reversible Disc Harrow.



"Canton" Orchard Cultivator.



"Kentucky" Disc Drill, Steel Frame.

### HOOKE & CO.

16 & 18 DRUMM ST.

SAN FRANCISCO.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXVI. No. 26.

SAN FRANCISCO, SATURDAY, DECEMBER 26, 1903.

THIRTY-THIRD YEAR.  
Office, 330 Market St.

## Other State Buildings.

In a recent issue we gave views of the State buildings in course of construction on the World's Fair grounds at St. Louis by the States of California and Washington. These State buildings promise to be a great feature of the St. Louis fair and will add much to the general interest, while, at the same time, they gratify the home-feeling of the multitudes who will gather. No doubt the Western buildings will serve as great places for welcome and hospitality, while the buildings of the older States will not only gratify the residents thereof, but will be sought out by the thousands of Western residents whose nativity begets loyalty to the old commonwealths. There is one section of the grounds at St. Louis largely occupied by State buildings, while others are located more centrally and nearer the greater structures. California chose one of the latter locations and expects thus to catch more outsiders by manifestations of California hospitality.

Upon this page we have pictures of three State buildings. Among the most attractive are those of Colorado and Montana, which are distant neighbors of ours. The design of the Colorado building, now in course of erection, is in Spanish renaissance. The first floor shows in the center a rotunda, from which



Mississippi Building.

and doors may be so arranged that the entire building can be thrown open, thus furnishing an excellent draught on warm days.

The third building on this page is being erected by the State of Mississippi, and will have especial interest to our readers who hail from the sunny South. Mississippi will not undertake anything stately, but will appeal to interest along historic lines. The building is to be a reproduction of "Beauvoir," the mansion bequeathed to Jefferson Davis on the Gulf coast by Mrs. S. A. Dorsey. The President of the Southern Confederacy spent the last years of his life there. It was in this typical Mississippi house that he wrote "The Rise and Fall of the Southern Confederacy." The building will stand near the southeastern entrance to the Exposition grounds. Mississippi was one of the first States to make an appropriation for the World's Fair, and her action will, we hope, be a fair indication of the interest which the solid South will take in the coming celebration of the nation's greatness.



Colorado Building.

ample staircases lead to the second floor. The rotunda has almost the entire height of the dome inside. The ceiling of the dome will be vaulted with intersecting arches, and in the center of the ceiling will be a stained glass light. The remainder of the building is divided into apartments for the staff.

Montana's building will be of modified Doric architecture, exemplifying the strength and grandeur of the State. The building has four large and spacious entrances, the main entrance in front being made the feature of the design. The entry at the front, over a wide flight of stairs, opens into a vestibule, which will be decorated by means of columns, pilasters and ornamental frieze. On each side of this vestibule there are closets and check rooms. From here one enters the reception hall and rotunda, extending the full length of the building and divided by ornamental columns, pilasters and beams, all richly decorated. The reception hall is roofed with a dome which extends on the inside to the height of 36 feet above the floor. On the sides are windows. On each side in front are located parlors or reception rooms. In front and on two sides are porches. The windows



Three State Buildings at the St. Louis Fair.—Montana Building.



# PACIFIC RURAL PRESS.

Published Every Saturday at 330 Market Street, San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. Publishers  
E. J. WICKSON Horticultural Editor

SAN FRANCISCO, DECEMBER 26, 1903.

## TABLE OF CONTENTS.

ILLUSTRATIONS.—Three State Buildings at the St. Louis Fair—Mississippi, Colorado and Montana, 401.  
EDITORIAL.—Other State Buildings, 401. The Week, 402.  
QUERIES AND REPLIES.—Better Apples for San Francisco; Advertising Fertilizers, 402. How a Stable Floor Was Made; Alfalfa Bacteria; Bluestoning Seed Grain; Olives From Tip Cuttings; That Washington Jelly Machine; Citrus Trees From Cuttings; What Can Be Grafted on the Locust? 403.  
WEATHER AND CROPS.—Report of the U. S. Weather Service for Week Ending Dec. 21, 1903; Temperature and Rainfall, 403.  
ENTOMOLOGICAL.—Spraying Operations for the Codlin Moth in the Pajaro Valley, 404.  
THE DAIRY.—The Elements of Successful Dairying, 405.  
THE POULTRY YARD.—Hints on Policies and Appliances, 405.  
FRUIT MARKETING.—Growing or Marketing the Proper Subject for the Fruit Growers' Convention? 406.  
THE HOME CIRCLE.—The Closing Year; A Got-up Thing, 408. The Physiologic Care of Colds; Domestic Hints, 409.  
PATRONS OF HUSBANDRY.—Tulare Grange, 410.  
AGRICULTURAL REVIEW.—413.  
THE MARKETS.—Produce Market; Fruit Markets, 414.  
MISCELLANEOUS.—Percherons at the St. Louis Fair, 410.

## The Week.

We go to press in the midst of Christmas week, with the usual distractions of the holiday season at their flood. As anticipated last week, the city is breaking its record in holiday doings, and the cessation of the rains is giving every one the fullest opportunity. The Christmas of 1903 is likely to be memorable for glorious weather, for generous outlay along presentation lines and for jubilant feeling widely prevalent. It will give a general uplift for the New Year.

This week's issue closes our 66th volume and the index appears upon the last page. A glance at the titles recorded shows how full an exposition of up-to-date topics of practical value has been made during the last half year. If our friends find it convenient to show this inventory of subjects expounded to their newly-arrived neighbors, who need information about how to do agricultural things in California, it may be of mutual advantage to us and to them. Each friend we have can thus give us a little holiday cheer which will be very acceptable. We feel thankful for the kind appreciation of our work which our regular readers so freely manifest in their correspondence with us, and we extend to all who belong to our parish a most cordial Christmas greeting.

Spot wheat is firm at last week's prices. Options have been considerably better since our last report, and, though they have receded somewhat, are still ahead of a week ago. Only one ship has cleared and that of mixed wheat and barley—mostly the latter. Barley is steady to firm and not much high-grade offering. California corn is higher and Eastern is lower. Beans are quiet and steady. Millstuffs are unchanged. Meats are also stationary with full figures for hogs, which are in light receipt. Butter is unsettled; fancy is selling well, but there are heavy stocks of storage butter and their future a little uncertain. Plenty of old cheese is weak and slow, while fancy new is scarce. Eggs are lower, but were active and clearing up well. The run is on turkeys, which are strong; there is plenty of Eastern and few California this year. All choice poultry is firmly held and high prices check demand. Potatoes and onions are quiet; good lots of both are firm. Fine apples are selling well and poor are going at all kinds of low prices. Oranges are abundant and ripe lots sell well. Lemons are quiet and steady. There are few sales of dried fruits. Two steamers have taken prunes—nearly a million pounds in all, mostly for Germany. Small prunes are cleaned up well, while large are dragging. Honey is very quiet. Hops are firm and few offering. Wool is quiet and some going by steamer to New York.

Referring to the regular notes made recently of the movement of prunes direct from this port to Germany, it is interesting to know how rapidly the Fatherland is increasing her purchases of outside fruit products in spite of all the hardships which the agrarian interest places upon the traffic. The present year has witnessed a great increase in the imports of American apples into Germany. For the first eight months of 1903 the imports were 3696 metric tons of 2204 pounds each, against 214 tons and 543 tons during the same months in 1902 and 1901. Of American dried fruit, baked and simply preserved, the German imports for the same period were 25,251 tons, against 11,981 and 12,060 tons, respectively, in 1902 and 1901.

The cross-mountain railway line from Kern county to the coast is slow to materialize and an automobile line is now proposed. The Kern county supervisors have granted a franchise from Wasco to Paso Robles. The line will be owned and operated by the Overland Auto-Traction Co., a local corporation, and will carry freight, passengers and United States mail. Carriages, with accommodations for fifteen passengers, will run daily between Bakersfield and the coast. The line will maintain a powerful traction engine with a train of wagons for handling freight.

The essay by Mr. W. T. Clarke, which we print upon another page, and that of Professor Woodworth, printed in our last issue, constitute a preliminary report of the most practical suggestions to be drawn from the long pursued and carefully planned campaign against the codlin moth which the State University conducted in co-operation with the supervisors and citizens of Santa Cruz and Monterey counties. There will, of course, be much publication of the details of the experiments, which it will take time to prepare, but the men in charge of the work are entitled to much credit for their enterprise in giving to the growers so soon the outline of results which can be fully considered this winter and serve as a guide for next summer's work. Practically a year has been saved by this course, and it is encouraging to find such expert observers so prompt in giving the public the advantage of their work. Messrs. Woodworth and Clarke are two of the most valuable men in the State from a horticultural point of view and, fortunately, they are both young enough to do still greater things in the future.

The range interest will center at Portland, Or., on January 12, where there will be held on that day the seventh annual convention of the National Live Stock Association. It is announced that a very important financial proposition will be set on foot in the form of a concerted movement whereby adequate legislation may be secured from the National Congress to provide emergency currency for Western banks, that the periodical loss visited upon live stock and agricultural interests during periods of heavy movements may be minimized, if not entirely obviated. It is asserted that because of conditions of the money market during the past few months, just at a time when the movement of live stock was heaviest, millions of dollars have been lost to the stock growers of the West. Banks holding cattle paper have in many instances called in their loans, besides declining to make new ones, thereby depriving the stockmen of necessary funds. There is certainly a mistaken policy somewhere, when money lies idle in one place and cattle are held back in another. Money available for the movement of crops is a national necessity and a public benefit.

California sheepmen are making a strong appeal at Washington to induce the Government to change its rulings regarding the grazing of sheep in the forest reserves, which, the sheepmen say, are entirely destitute of timber, but which yield food for sheep. In Mono county the sheepmen are anxious to open up the country now included in the forest reserve, and have sent a representative to secure a hearing from the Interior Department as to concessions. The Secretary has hitherto refused them, holding that the primary purpose of the law permitting the creation of forest reserves renders it impossible to permit the grazing of sheep or cattle.

## QUERIES AND REPLIES.

### Better Apples for San Francisco.

TO THE EDITOR:—I wish to call your particular attention to the action of the Pajaro Valley Orchardists' Association concerning the need of preventing the marketing of trash apples in San Francisco. In a few years the apple output in this section will be double what it is now. Some measure is imperative, first, to prevent the glutting of the market with worthless fruit which leaves little or nothing to the grower after the box maker and the railway company are paid; second, because it will compel all growers to do all in their power to reduce the production of this kind of fruit. In some way, however, the makers of jellies, apple butter, cider, etc., must be able to get their supplies. The poorer classes of consumers shall never suffer for the lack of cheap apples. Sound but small fruit shall be plentiful always. Under present conditions this kind is almost unsalable.—E. C. W. MacDONALD, Aptos.

This is a matter of the utmost importance and also of the utmost difficulty. There was a movement a few years ago to accomplish the end which is so desirable by proceeding against wormy fruit under quarantine regulations, and Mr. Craw did his best to accomplish something, but he was fought by the shippers of bad fruit to the city and by the trade which received it. There was no effective law or ordinance under which he could succeed. San Francisco seems too valuable as a dumping ground for refuse. Of course, it is easy to satisfy a rational person, theoretically, that the grower and the trade would both be profited by marketing only sound fruit, according to grade, but so long as there are so many ill-informed and irrational persons who will not master the problem of growing sound fruit, and will push poor product, it is questionable whether they can be prevented from marketing it in San Francisco so long as it cannot be demonstrated to be a menace to the public health. The old principle that the buyer must beware holds firm where unwholesomeness cannot be shown. A campaign of education seems to be about the only recourse of those who are wise enough to see that only sound fruit should be marketed, for all the reasons which exist. Agitation is, of course, desirable to this end, and we are glad to comply with our correspondent's request to declare the matter as loudly as we can. The following are the resolutions of the Pajaro valley growers to which he alludes:

WHEREAS, It is an established fact that many of the nearby markets for Pajaro valley fruit, such as San Francisco, Oakland and San Jose, are supplied with such large quantities of wormy and scaly apples that those markets are constantly glutted with this inferior grade of fruit to such an extent that there is very little demand or sale therein for first-class, No. 1 apples, proportionate to the total amount of apples used in those markets; and, further, that the price that this low-grade fruit sells for is so low that little or nothing is netted to the grower from the sale thereof, therefore be it

Resolved, That it is the sense of this meeting of the Pajaro Valley Orchardists' Association that steps be taken to relieve the above and other markets of this State, particularly San Francisco, of wormy or scaly fruit by promoting such legislation as may be necessary to prevent such grades of fruit being received and sold in said markets; and be it further

Resolved, That the president of this Association be hereby authorized and asked to take necessary steps to secure the enacting by the board of supervisors of San Francisco county and the State Legislature of such legislation as may be necessary to keep said markets free from the receipt and sale of wormy and scaly apples.

This is a good start for a new movement, and if the Pajaro valley growers will push their work with the San Francisco supervisors for a local condemnatory ordinance they will be hammering at the right spot. Meantime all other growers' organizations should co-operate with them, and no doubt the best of the receivers will promote the movement as soon as they see which way the growers' sentiments turn.

### Advertising Fertilizers.

TO THE EDITOR:—What is a good all-around fertilizer for this section—loose, sandy soil—for fruit, vegetables, lawn, etc.? I find no one advertising fertilizers in the PACIFIC RURAL PRESS.—READER, Monterey.

Our fertilizer manufacturers and dealers are not doing their duty to themselves and to our readers in this respect. We have occasionally advertisements from those dealing wholesale in potash, nitrates, Thomas slag, etc., and this is of great advantage to



those who use these materials largely, but there ought to be continual advertisement of mixed fertilizers, either complete, such as our correspondent above needs, or of mixtures for special purposes. Fertilizer dealers must educate the people to the use of their goods by constant advertising. They wonder why more fertilizers are not called for in small lots in California as elsewhere, and they forget that in Europe and in the Eastern States the dealers bring about this use by their liberal advertising. Our dealers should prepare good descriptive pamphlets and then create a large demand for them by advertising. They are apt to blame California farmers for not patronizing them and forget that they are not doing the first thing to secure such patronage.

#### How a Stable Floor Was Made.

TO THE EDITOR:—I was interested to see your advice about making a stable floor in the PACIFIC RURAL PRESS of November 14. Before that I had already done the work on my stables, and as I am very well pleased with it so far I will tell you my plan. The passage ways back of the stalls, as you suggest, we laid down in cement over a solid concrete. The stalls I floored with 2-inch rough planks allowing the planks at either side to run the entire length of the stall. The center planks I cut off in the middle, resting on a stout crosspiece bedded in cement. This center space is cemented, leaving 2 or 3 inches below the planking and a sharp dip to the lower end. The planking of the stall is then completed with a sort of grating of 2x4s laid about an inch apart. All liquid drains out beneath into the ditch running back of the stalls and we have a perfectly dry, well drained stall. The 2x4 gratings can be lifted out to clean the space below, and as everything is cemented we sluice it out twice a week with a hose. From the end of the gutter behind the stalls the liquid runs in a cement ditch below the surface and covered by a plank and earth, so that if clogged the plank can be lifted and the ditch cleaned. The ditch carries it to a pit with stone walls and concrete bottom, where all manure both dry and liquid is stored until hauled out to the orchard.

The important point is the raising of the slat work at the lower end of the stalls above the concrete instead of resting on it, as I saw it in two or three stables which I went to look at.—R. C. ALLEN, San Diego county.

We are glad to have this note. The construction is excellently planned and knowledge of it will be helpful to many readers.

#### Alfalfa Bacteria.

TO THE EDITOR:—I enclose an article from an Eastern journal on methods of fertilizing alfalfa. We are very anxious to get about twelve acres of our farm in alfalfa, and as the soil is very light and sandy, wish to find some way to enrich it. Will you kindly tell me if the information in this article is reliable, and if so, to whom, in Washington, I can apply for a box of the fertilizer?—READER, Santa Cruz county.

The best way to secure some of the Government bacteria for promoting the growth of alfalfa is to apply directly to the Hon. James Wilson, Secretary of Agriculture, Washington, D. C., and he will refer your letter to the particular Bureau having this matter in charge. It is a question whether this addition is of particular moment in California, because alfalfa seems to grow well under natural conditions in this State and presumably the desirable bacteria are already present. However, the experiment would be interesting. One has to be careful and not misunderstand this proposition. The material which the Government furnishes is not plant food or fertilizer, but is the agency by which this addition is made to the soil from the nitrogen of the atmosphere. If, therefore, the agency is naturally abundant, as it presumably is in California, the application becomes of less moment.

#### Bluestoning Seed Grain.

TO THE EDITOR:—I have practiced bluestoning seed wheat for about twenty years. Is there any benefit derived from the practice, or is it a waste of time and expense? If it is good for seed wheat why not for barley also?—GRAIN GROWER, Contra Costa county.

The efficacy in bluestoning wheat consists in killing the spores of the smut fungus which may be adhering to the seed. By this process, then, you plant clean seed and not such seed which carries with it the germs for its own destruction; but planting clean seed does not, of course, prevent the coming in of the germs from other sources, as they could be brought upon the atmosphere from other fields, or might endure in the soil itself. For this reason bluestoning wheat is not absolute surety that you will have a crop free from smut, because the introduc-

tion from the outside might under favorable conditions be sufficient to seriously injure it. There is, as you know, considerable difference of opinion among growers as to the value of bluestone, and it is due to this fact of outside introduction, and yet the conclusion of the whole matter seems to justify bluestoning, and most farmers continue to do it year after year, although they are not absolutely sure of its efficacy. We have to conclude from this that bluestone is on the whole valuable, and that the prevalence of the practice is justified by continued experience of many growers. Barley is not treated to bluestone as wheat is, because it is less subject to the disease.

#### Olives from Tip Cuttings.

TO THE EDITOR:—Where can I find a description of the method of growing young olive trees from "tip" or green wood cuttings? The nurserymen around Pomona have been raising nursery stock of olives by using "tips" for at least ten years and I made one trip to the district to learn what I could in regard to the method, but of course the main or essential points of the method were secret; that is, degree of bottom heat, amount of moisture, and the best material, coarse or fine sand, etc. One man was using spent tan bark from a tannery and it seemed to me that much of their work was experimental. Some of the nurserymen said many of the varieties were hard to root and one man acknowledged that the reason the Nevadillo and the Manzanillo were so highly recommended was that they were easy to propagate. I have a bench 5x18 feet fitted with bottom heat where I am growing roses, alternantheas, coleus, etc., quite successfully, and the bench is about ready to be cleaned up, that is, the stuff potted off. Please tell me where I can get anything about starting the "tips;" please do so and let me know cost of book, etc.—NURSERYMAN, Orange county.

There is a full illustrated description of the method of growing olive trees from tip cuttings in our book on "California Fruits," which is advertised in another column. As for this work, if you are successful in growing soft wood cuttings of roses, etc., you need apprehend no difficulty in succeeding with the olives. There is no secret about it, though one learns much from experience. You will find, for instance, that there is a vast difference in the readiness with which the different varieties take root and you are right in saying that propagators have been pushing those varieties which are most easily rooted. The worthless Redding Picholine, for instance, roots as readily as a rose, while the Mission will give you a much lower percentage. You need only a little bottom heat and moisture not in excess, but there is some trick about taking the twigs in the best condition as described in "California Fruits."

#### That Washington Jelly Machine.

TO THE EDITOR:—Some time since I wrote you about a jelly making machine said to be in existence in Walla Walla, Wash., and on your advice wrote to Mr. Brackett, Pomologist in Washington, D. C., and also to the editor of the local paper and to the State Experiment Station at Pullman, but to all of my inquiries have received no definite reply. Is there no way for either State or Government boards to get information about this, or is the matter one of the trade secrets of horticulture that live and die with their owners?—READER, Los Angeles.

We are sorry about that jelly making machine concerning which we have had so much correspondence. Our conclusions about it, however, would be quite different from yours. You seem to think it is a secret of much importance. We think it is a sort of a freak notion about evaporating cider and believe it has been abandoned as impracticable. Now we can see which of us is right by the developments of the future. You can be very sure that if it is a good thing plenty of noise will be made about it. Unless the people having it are content to have it denounced they should furnish different information.

#### Citrus Trees From Cuttings.

TO THE EDITOR:—I have recently been told that citrus nursery stock can be raised from cuttings. Is this an established fact, and, if so, is it a satisfactory way to plant nursery? Is the root system as good as from seed, and what kind of stock is used for cuttings?—PROPAGATOR, Tulare county.

Lemon trees can be grown quite easily, and orange trees with rather more difficulty, from cuttings, but there will be a considerable percentage of failure, even when the heat and moisture conditions are carefully arranged, and the tree will not have such a root system as one grown from a seed. For these reasons there is no considerable propagation from cuttings, nor is it desirable that there should be. If you wish to try your success at it, take hard wood, one or two

years old, plant out in the summer when the ground is quite warm, and give plenty of water, being sure of course, that the drainage is satisfactory, and that the water does not stand around the cuttings.

#### What Can Be Grafted on the Locust?

TO THE EDITOR:—Please tell me what kind of tree, if any, can be grafted on the locust? We have some locust trees in our yard for shade, but do not like them, and would like to graft them to something else if we can.—SUBSCRIBER, Gilroy.

We do not know.

### WEATHER AND CROPS.

#### Report of the U. S. Weather Service for Week Ending December 21, 1903.

ALEXANDER MCADIE, Forecast Official and Section Director.

##### Sacramento Valley.

The weather during the week was generally cloudy, with considerable rain, and the temperature was nearly normal. The rain was quite beneficial, though not especially needed. Plowing and seeding were somewhat retarded by the heavy rainfall in some sections, but the work is well under way and a large acreage of wheat and barley is being seeded. Early sown grain continues in first-class condition and is making satisfactory growth. Green feed is abundant in all sections and stock are gaining rapidly. The acreage of strawberries and Tokay grapes is being largely increased in the vicinity of Sacramento, and planting is now in progress. Orange picking continues, and large shipments are being made for the holiday trade. Pruning is progressing in vineyards and orchards.

##### Coast and Bay Sections.

Cloudy and foggy weather prevailed most of the week and the temperature was nearly normal. Light rain fell in portions of the southern section and heavy rain in the central and northern sections, ranging from 1.54 inches at Vacaville to 4.75 inches at Peachland for the week. At Healdsburg the rainfall for the season amounts to nearly 20 inches. Plowing and seeding are progressing, though somewhat retarded in the northern districts by the heavy rain, and made difficult in the south by the dryness of the soil. A good acreage of grain has been seeded and will be increased with favorable conditions. Feed is making slow growth in the south, but is abundant and of good quality in other sections. Early sown grain is making good growth in most places. Large shipments of celery are being made from Mayfield.

##### San Joaquin Valley.

Generally clear and cool weather prevailed during the week, with light rain on Thursday, averaging nearly one-half an inch in the northern section of the valley, and only a few hundredths in the southern. Green feed was greatly benefited by the rain, and is plentiful in the northern portions of the valley, but scarce in the southern. Stock are healthy, but thin, in the southern counties. Plowing and seeding are progressing rapidly in the central and northern portions, but in the south, where the rainfall has been light, farm work is backward. Early sown grain in the northern portions is up and making good growth. Pruning orchards and vines is progressing. Orange shipments continue and the fruit is of excellent quality. Heavy frosts occurred on several dates, but no damage has been reported.

##### Southern California.

The weather during the week was warm and clear in the day time, with cool nights and frequent frosts. At Poway a minimum temperature of 26° was recorded on the 17th. With the exception of a light shower in San Diego, no rain fell during the week. Orchards are being freely irrigated, and the water supply is becoming very low in some places. The recent drying winds and the cool weather have materially checked the development of oranges, and very little of the fruit is being picked. Raisins, small fruits, citrus fruits and vegetables are being shipped from San Diego. Farming operations are almost suspended, owing to the long continued dry weather.

LOS ANGELES SUMMARY.—Sprinkling rain in some places Friday; otherwise drought continues. Nothing reported suffering except dry ranches in the back country. Mornings cool, with frost. Full irrigation continues.

EUREKA SUMMARY.—Some places report fall grain never looked better. Plowing continues, and some seeding on high lands. Green feed is abundant and stock in good condition. Three-fifths of the apple crop is shipped.

#### Rainfall and Temperature.

The following data for the week ending 5 A. M. Tuesday, December 22, 1903, are from official sources and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week.	Total Seasonal Rainfall to Date.	Total Seasonal Rainfall Last Year to Same Date.	Average Seasonal Rainfall to Date.	Maximum Temperature for the week.	Minimum Temperature for the week.
Eureka.....	1.22	17.28	19.81	15.38	56	38
Red Bluff.....	2.26	11.81	12.05	9.03	60	40
Sacramento.....	.69	4.43	5.30	6.20	58	38
San Francisco.....	1.42	6.02	5.13	8.46	56	46
Presno.....	.20	.88	3.13	2.85	62	34
Independence.....	.00	.42	.83	1.41	72	24
San Luis Obispo.....	.32	.82	4.98	5.97	70	36
Los Angeles.....	.00	.43	4.97	5.07	76	40
San Diego.....	.00	.40	6.09	2.36	70	44
Yuma.....	.00	.66	1.47	1.52	72	36



## ENTOMOLOGICAL.

## Spraying Operations for the Codlin Moth in the Pajaro Valley.

By W. T. CLARKE, Assistant Entomologist of the Experiment Station of the University of California, at the Fresno Fruit Growers' Convention.

The spraying experiments carried out by the University of California Agricultural Experiment station, working in co-operation with the counties of Santa Cruz and Monterey during the season of 1903, have produced very interesting results and furnish a fund of data that will be of great value in future operations against the codlin moth. It seems quite pertinent to review briefly at this time the work done and to indicate in a general way the results obtained and their application to the problem of the economic control of this scourge of our apple and pear orchards.

**THE SCENE OF OPERATIONS.**—The territory covered in these spraying experiments extends from the Carmel valley in Monterey county to Boulder Creek in Santa Cruz county, a distance of some 65 miles, and is in some places 20 miles in width. This extent of territory afforded a great diversity of climatic conditions to be studied, because of the different exposures and altitudes of the many apple orchards therein. Some of the orchards on which our experiments were done are not more than 20 feet above sea level, while others were used that ranged up to near 900 feet altitude, and all intermediate elevations were represented. The climatic conditions encountered ranged from the rather cool, moist weather, so characteristic of the Pajaro valley, to the warmer, drier conditions found in the sheltered valleys of the Santa Cruz mountains and in the hills of northern Monterey county. In this territory, also, many different soil conditions are found. The moist, rather heavy alluvial soils of the main Pajaro valley, the occasional adobes of this same valley, the rather lighter gravelly loam of the mesas, the sandy and very light sandy soils of some of the hill regions, on all of which apple orchards are commercially grown, were represented in our experiments. These various and diverse climatic and soil conditions are valuable in experimental work of the character of this under discussion, because they render that work and its results more general in their application in the region studied than could otherwise be the case. The conditions found in this region, however, are not generally the same throughout the State, and, therefore, the recommendations based on the experience here obtained might have to be modified to meet local conditions elsewhere. The numbers and activity of the insects under consideration vary quite materially in the different zones found in the region described, due to climatic differences, and the vigor of the apple trees also varies according to both soil and climate conditions.

These differing conditions suggest immediately the fact that spraying operations which might be quite successful and satisfactory in one part of the territory could not reasonably be expected to be satisfactory in all parts. The necessity of considering these conditions was clearly shown in the spraying experiments of this season.

**GENERAL PRINCIPLES GOVERNING THE WORK.**—The opinion of most investigators is that the most effective time to spray for this pest is when the blossom petals have fallen and the young fruit is still upright. The theory underlying this recommendation is that at this time we may place a small amount of poison in the blossom cup, and the calyx lobes, closing together later on, will retain this poison, ready to be eaten when the young worm enters the fruit. This, of course, presupposes that many, if not most of the worms, will make their entry at this point. This principle is so strongly insisted on in much of the literature on the subject that the time of many of our first sprayings was governed by it. When, in our experiments, we began operations at this time, we usually made our subsequent operations follow at intervals of from three to four weeks. In other experiments the timing was not based on this idea. Indeed, we have aimed in the work to begin operations at various periods in the development of the fruit, for the very purpose of determining the soundness of this and other theories and the value obtained from greater or less numbers of sprayings. To illustrate, we have sprayed some orchards at the time the petals have fallen, and at intervals of from three to four weeks thereafter, until these orchards have been sprayed five times. On other orchards our experiments have been begun from twenty to twenty-five days after the petals had fallen, and on others work began forty or sixty days after this had occurred. Under this system we have orchards that have been sprayed five, four, three and two times, the last spray being in each of these cases put on from three to four weeks before the fruit was picked. On other orchards spraying ceased; in some cases forty days, in others sixty days, before picking. By these methods the comparative value of early and late spraying may be demonstrated, and also the comparative value of many and few sprayings. In-

deed, we have endeavored to experimentally prove the value of few and many sprayings and of early and late sprayings under all the climatic changes to be found in the territory where these experiments were conducted.

**MACHINERY AND DEVICES USED.**—It was early recognized that the time of application of the spray used was but one of the many problems that confronted us in the work and that the method of application was of large import in the matter. We have, therefore, carried on many experiments with different pumps and spraying outfits, both hand and power, and with many makes of nozzles. We have also had made numerous devices, suggested from our field experience, looking toward better and more uniform distribution of the material at a less cost than is usually the case. Time does not permit us to enter into the detail of these experiments in this paper. They will appear in full in the series of bulletins soon to be published by the Experiment Station.

All we will attempt now to say is that work with platforms built up on the spray wagon, which permits of an economical and thorough distribution of the material from above, has proved such an improvement over present methods in this State that it should lead to a very general adoption of the method in the future, as is the practice in many parts of the East. That the use of power outfits is in the long run more economical and undoubtedly more satisfactory than that of hand outfits in well-grown orchards we consider as also amply proven in our experiments.

As for the most satisfactory nozzle to use, our experiments seem to indicate that early in the season a rather coarser spray is to be desired than is the case later on in the year. A nozzle, therefore, that would be satisfactory for the first two sprayings would have to be replaced by one throwing a more finely divided and fog-like spray in subsequent operations. This is a very complicated subject, however, and will be thoroughly discussed in a bulletin about to be issued by the Experiment Station.

**ARSENICALS USED.**—In the greater number of our spraying experiments during the past season, the arsenical poisons were used, and in no case were satisfactory results obtained from the use of other materials, many of which were experimented with. It will not be necessary to give details of our work with these other materials in this paper. Of the arsenicals, the Paris green is the best known and was most extensively used in these experiments. The reason for the very large use of this arsenical is primarily the fact that it is easily obtained and its purity or impurity can be readily determined by analysis, under the law governing its sale in California. All of the Paris green tested and used by us this season was well below the limit of 4% free arsenious oxide allowed by this law and its physical condition was, generally speaking, good. In our spraying experiments the Paris green was always applied in combination with lime, on account of the liability of burning the leaves under those climatic conditions. The amount of lime used per pound of the green varied in different orchards from four to twenty pounds and on all but one orchard the milk of lime, well strained, was used. In the case of this one orchard clear lime water was used, and while very satisfactory results were obtained, such a method of procedure cannot be recommended until further experiments along the same line have been made. At least 50% of the orchards of Monterey and Santa Cruz counties were sprayed with some combination of lime and Paris green; some of them five, some four, some three and some two, and some early in the season only and some late. We also experimented very fully with the arsenite of lime, made up under the so-called Kedzie formula\*. This arsenite was used on fewer trees than was the Paris green, but so far as numbers of applications are concerned, the experiments with it were as extensive as were those with Paris green. The lead arsenates and arsenites made up from the soluble soda arsenite and both the acetate and nitrate of lead received their due amount of attention, as did also the manufactured lead arsenate which is sold under the trade name of "disparene."

**"DUST" SPRAYING.**—Besides this work with the arsenicals used as sprays, we experimented to some extent with the so-called "dust" method of applying the poison, using the Paris green in combination with dry, slaked lime, well powdered and sifted. Various devices for applying the "dust," which are more or less unsatisfactory, are on the market. The devices all use either the ordinary bellows or the rotary blower to scatter the material where it is desired. The former is quite out of the question for orchard use, but there may be a future of the rotary blower. Our experience this season with the "dust" method leads us to consider that with the devices at present available for the purpose thoroughly satisfactory results cannot be obtained except on a very small scale. We would consider that, were these devices better adapted for work on a large scale, the "dust" method would be quite desirable under such conditions of climate as obtains in some parts of the Pajaro valley, and in some other portions of California, where there is a maximum of atmospheric moisture (dew or fog), and the minimum of wind, that the "dust" may remain in position upon the foliage and the fruit.

**GENERAL RESULTS.**—When we come to consider the results obtained in the experiments for the control of the codlin worm, we are confronted by an interesting and very extensive series of facts and figures. The major part of these results fall readily under two heads—damage to foliage and control of the codlin worm.

Damage to foliage, when the arsenicals are used as a spray, may be either acute or chronic. The acute damage, commonly known as "burning," was noted in a number of cases, and is usually, perhaps always, preventable; that is, it is generally the result of some accidental condition, such as the use of Paris green, in which there is an excessive amount of uncombined arsenious oxide, a failure to properly stir the spray mixture, allowing the arsenical to come from the nozzle in an overdose, overspraying or letting so much of the mixture fall upon the leaves that it runs together in drops, too small an amount of lime for the arsenical used. Any of these conditions may cause the characteristic blackening and scorching of the leaves, or "burning." In our experiments this season, in every case of this trouble, the cause was found to be some one or more of the above noted factors. This acute damage can be seen plainly within a week after the application of the spray, and a recognition of the accidental cause and an elimination of it from subsequent operations will doubtless always prevent a repetition of the trouble.

The chronic damage to foliage is a rather more obscure and difficult matter. It may be described as chronic, cumulative arsenical poisoning of the cells of the leaves, causing them to ripen, turn yellow and the leaves to fall prematurely. Some of the orchards upon which our experiments were conducted suffered very seriously from this trouble. The locality is one in which poisoning is extremely liable to occur. We trust that this damage may be prevented in future operations if due caution is exercised. This is a point on which we intend to make further studies the coming season. We know that this chronic poisoning of the foliage occurred only on those orchards where spraying was often done, and at short intervals of time. A study of the surrounding conditions on these orchards seems to indicate that, so far as the codlin worm is concerned, as good control might have been obtained if the number of sprayings had been fewer and the intervals between sprayings greater. Furthermore, it was noted that the orchards sprayed with Paris green suffered more from this chronic poisoning than was the case where any other of the standard arsenicals were used. Quite evidently there is necessity of careful observation in the orchards that are liable to damage from burning to avoid excessive spraying. As soon as the foliage shows distress in the slightest degree, we have evidence that the accumulated doses of arsenic have exceeded the necessary amount for sufficient protection against the codlin moth. Perhaps, in the regions most susceptible to chronic poisoning, it will be necessary to discard wholly the use of Paris green, and to substitute one of the less dangerous arsenicals.

**CONTROL OF THE PEST.**—Turning now from this question of possible damage to the foliage which must be guarded against, we come to the consideration of control obtained of the pest in question, the codlin moth. As for the effectiveness of the different standard arsenicals used, there seems to be little to choose between them. The Paris green is not, generally speaking, so satisfactory to work with as either the lead or lime arsenicals. These latter are more flocculent, that is, they "stay up" better in the tank, as it is expressed, than does the Paris green, and a more even distribution of the poison is probable when they are used. While the results obtained by us, when either the home-made or commercial lead arsenates were used, were slightly less satisfactory than with the other arsenicals, our experiments this season point to a possible great value in these compounds of lead and arsenic.

The fact that both the lead and lime arsenicals can be made at home is a point in their favor in the minds of some growers, inasmuch as the danger from impurities and neglected methods of manufacture is removed when they are used. Our experiments this season certainly show their great value and they are deserving of extensive use in this State in the future. The results of this season's work indicate that a very large degree of control can be obtained, but the seasonal conditions in the development of the worms must be studied to obtain this success. There are times in the life history of the moth when the presence of the poison on the fruit will be very effective in protecting the crop while at other times the need of protection would not be so great.

Our studies during the season just past indicate two times of maximum appearance of the moths in the Pajaro valley and the most effective sprays are evidently those applied at these times. These times of maximum development may be roughly stated as occurring in the late spring or early summer and in the late summer or early fall. We know from our studies this season, that, owing to certain climatic conditions, a portion of the region under discussion may be classed as immune against the codlin moth. Other parts of the territory suffer exceedingly from this pest, and various grades of susceptibility are found between these two extremes. Where the condition of immunity exists, of course no sprayings are necessary. In all cases studies must be undertaken



by each individual or at least in each local group of orchards to determine the time for spraying and the number of applications to be made. As for the spring spraying for placing the poison in the blossom cup, this may, under certain conditions, as has been pointed out in the previous paper, be omitted. How widely this policy is safe can only be known after careful experiments have determined the point for each locality.

**WHEN TO SPRAY.**—The time to spray for the spring brood of worms, where this brood causes a considerable loss, can be readily determined by the breeding cage method. This consists in placing a number of the hibernating worms in glass jars and covering the mouths of the jars with cheese-cloth. These may be taken in their pupa cases from old boxes, bands or other likely places during the winter. These jars should then be put out in the orchard in such situations that the sun will not shine on them, nor water leak into them and yet where the pupae in them will be subject to all the temperature changes of the season. A careful watch of these improvised breeding cages should be kept and when moths begin to appear in them in numbers spraying should begin about a week thereafter and this spraying should be repeated in about three weeks. It will be advisable to examine the jars regularly once a week and remove the living moths from the jars each time, so that the count of appearances may not become confused.

The timing of the later sprayings can be determined by the band method. This consists in placing bands of burlap about the trunks of a number of trees in the orchard and keeping a careful record of the codlin worms found beneath them. For the purposes of this study the bands should be removed at least once a week, and when the worms beneath them have been counted and destroyed the bands should be replaced. Spraying for the second brood should begin as soon as the worms become common and comparatively numerous beneath the bands, and as long as they continue to appear in numbers the spraying should be repeated at intervals of about three weeks to effectively protect the fruit against this second brood. This may require as much as three treatments in the Pajaro valley, possibly even four in the interior. These studies will, if carefully prosecuted, indicate for each orchard and season whether two or three sprayings or five or six are necessary to obtain control of the codlin worm. It may be possible in those localities where the seasonable variation is not great to determine a definite program for times of spraying by continuing these studies through two or three years. Indeed the whole series of results obtained by us indicate the necessity of a proper timing of the spraying of the best returns are to be expected, and this timing, as before stated, can only be determined by a study of the development of the worms.

**COST AND PROFIT.**—In conclusion we can say that our spraying experiments in the Pajaro valley this season have demonstrated the possibility of keeping the loss from the codlin worm down to about 5% of the crop, as against 25% to 40% where no spraying is done. The cost of this work will be from fifteen to thirty cents per tree for the year's work, reckoning on trees ten or twelve years old.

Our positive recommendations as to the all important question of timing the sprays is:

1st. In every locality, until definitely proven that it can be omitted, spray at such a time as to leave a dose of poison in the blossom cup.

2nd. One or more sprays for the spring brood of moths as determined by the breeding jar.

3rd. Sprays against the summer and fall worms as determined by the examination of bands.

## THE DAIRY.

### The Elements of Successful Dairying.

By MR. E. E. MOORE, at the University Farmers' Institute at Compton.

This subject naturally divides itself into three main topics: 1. The man. 2. The location. 3. The animal.

No one should hope to succeed in dairying who has not been more or less qualified, both by inheritance and surroundings. He should be a good judge of form and a keen observer of apparently trifling details, and the possessor of a good memory, or he can not hope to be able to select animals capable of producing the greatest returns. I think one of the most necessary requirements of a successful dairyman is a kindly, sympathetic nature, that would impel the owner to go hungry rather than his stock. He should be a generous man, who will not stint his cattle, but willing to make any sacrifice for their welfare. He must be fond of young and a lover of pets. I have always noticed this last quality very prominent in the makeup of one of our most successful Los Angeles dairymen, when visiting my ranch. He always has a kindly word and a caressing stroke or gesture for every animal, especially the calves and tender young things. In fact, one must be a lover of his stock in order to bring out their best qualities.

Henry Drummond, the great English divine, has

taken as the subject of one of his most powerful addresses: "Love, the Greatest Thing in the World."

**QUALIFICATIONS.**—Kindness in the handling of stock, and especially milk cows, will work wonders. Without it all the money of a Vanderbilt will prove barren of results, the bluest blooded stock would descend to the level of the meanest scrub, and the life of the dairyman "swallowed up in the shallows and in miseries." Kindness and patience are better capital to invest in dairying than the wealth of a Rockefeller, else the rich would have a monopoly of the business. If a poor man possesses these qualities in a superior degree, he is in better shape to succeed than the rich man, deficient in them, though of greater wealth and business capacity.

The successful dairyman will be a great reader of dairy papers, for by them he will be saved many costly experiments and helped over many quagmires which would engulf him if left to his own resources. James A. Garfield once said that "he never talked with a man five minutes without learning something he had not known before." So with the dairyman, however great his experience and however bright his genius, he must find great profit in the advice and counsel so generously provided in our many estimable dairy papers.

He must be a man of rare judgment and a keen observer of cause and effect in breeding, or his selection of dam and sire will produce no superior offspring.

I am a firm believer in the Shakespearean idea, "There is a Divinity that shapes our ends, rough, hew them how we may." Every man has within him the qualities that will enable him to perform certain acts more expertly than others. If, after a careful and intelligent study of his native abilities, he should believe himself adapted to stock raising, the next thing to determine is a suitable location. Many a new talent has been hidden, or even shipwrecked, by being used or applied upon the impossible.

**LOCATIONS.**—The first consideration for the location of a successful dairy is the ability to grow an abundance of succulent foods of a variety adapted to milk production. Without an abundance of available fuel the mightiest engine is useless, so the cow, without an abundance of food and drink, constantly available, will only be a source of disappointment and worry to her owner. If asked which I deem most essential, feeding or breeding, I would reply, "Without feeding your breeding is useless, and without breeding feeding is wasted."

In choosing a desirable location, the availability of a ready market cannot be overlooked. Many a man possesses eminent qualifications for a certain line of business, and may have a suitable location in every respect, but the distance to market or the expense of placing his product before the consumer may be so great as to eliminate every vestige of profit. As a well-known example, take the fruit growers of this State. Many of the brainiest men in the nation have settled here, and planted an orchard or vineyard of choicest varieties, and cared for it till his trees were loaded with delicious fruit, only to see it rot on the ground for lack of a suitable market. I hope to see the day when the Isthmian canal shall furnish our coast cheap and rapid transportation to the great markets of our Eastern coast. But few people realize the importance of the events now transpiring, or what a glorious place this immediate section is bound to become within the next few years. With the completion of our harbor and the Isthmian canal, we will have equal facilities for disposing of our products with those east of the Rockies, and a soil and climate capable of producing from three to four times as much each year. The effect will be a rapid increase, not only in our wealth, but also in our population, thus enlarging our home market.

With the coming of the trolley lines into our country in every direction, we are actually nearer the heart of Los Angeles than many who reside within her corporate limits. With the great markets of this rapidly growing city within fifteen minutes of our doors, there is no reason why this section should not become famous for her splendid herds, and I firmly believe that such will be the case.

**THE COW.**—You have doubtless heard of the sensitive plate of the photographer, or of the Roentgen jar of the X-ray machine, or of the needle in the mariner's compass. Did it ever occur to you that the cow is a more sensitive machine than any of them? Imagine what would be the effect if the doctor should give his X-ray machine a whack with his pill case. Yet it is not an uncommon thing to hear of some would-be dairyman pounding his cow around with his milking stool. It is no wonder he growls about his test, and thinks his factory man or creamery man is buncoing him out of his stool-extracted earnings. The reason why—the cow requires more care and intelligence and kindness than the photographer's plate.

By this time I am almost persuaded that the chief element to successful dairying is an intelligent man. But let us continue the discussion of the animal. Don't think for a moment that I am going to laud the Jersey cow above all the rest, simply because I am the proud owner and breeder of some pretty good and famous Jersey cows. I am like St. Paul in at least one respect. I will "let every man be fully persuaded in his own mind." Having chosen a breed which your judgment tells you is best adapted to

yourself, your locality and your market, then have the grit to stay by your decision at least till you are satisfied beyond reasonable doubt that you are wrong. Keep only full bloods; that is, if your pocketbook permits. If not, then get a good sire and a few equally good females and start in on the never-ending task of building up a herd. I say never-ending, and I mean it.

For many years it was declared that the two-minute trotter was a creature only of fancy. The world went wild when Cresceus made his record approaching that long-desired limit. When at last that marvel of horse flesh, Lou Dillon, made her wonderful record, the world took a long breath and sat down contented, thinking that this would never be excelled, only to be speedily startled by the announcement that she had lowered her own record. So it should be in the breeding of dairy animals.

**IDEALS.**—A brief summary of the requirements of the ideal dairy cow is perhaps pertinent here. I would have her, whatever its quantity or quality, persistent in the production of milk. The cow that does not give a vast amount when fresh, but throughout the year holds up that amount, will at the end of the year show a greater profit for her owner than the one who starts in with a great flourish for a month and then gradually descends till by the end of the year it requires a decided effort to get a showing of color in the pan. I would have a cow of equable, easy temperament, not readily disturbed or provoked, giving her flow of milk easily and without too great a time at milking. This cuts down the expense item and is far more satisfactory. In order to do this her udder must be well balanced—not too fleshy, teats good size, neither too large nor too small, and properly placed. I would have her low down, with large girth and good base to the brain. Then on the withers, catham, broad, springing ribs, showing no tendency to beefiness. Do not misunderstand me to be an advocate of the proverbial "bag of bones." I believe it possible to combine the beautiful with the useful. A conglomeration of boards, nails and shingles may form a building capable of performing a given service for its owner; but it would be much better if a little care and taste were exercised so that an ornamental as well as useful product of saw and hammer were the result.

I have never forgotten a description I once read of the herd of Jerseys of one of England's most famous breeders. To describe one was to describe all: Dark grays, with tan muzzles and great, beautiful eyes that looked with contentment and confidence upon the observer.

I have heard the gold prospector tell of the thrill and excitement attendant upon the uncertain hunt for gold. It seems to me there is no comparison to the thrill and pleasure, and even excitement, the careful breeder has in watching the outcome of his crosses. The gold hunter banishes himself from home, from comfort, from civilization, almost from life, without any assurance of any remuneration. The stock breeder is always sure of something, and, if his foundation stock be properly selected, his pleasure and profit will grow with the years.

There is no business with fewer risks of failure than the care and breeding of dairy animals, and no better location under the sun than that of Compton.

## THE POULTRY YARD.

### Hints on Policies and Appliances.

In the PACIFIC RURAL PRESS of December 12 we gave some practical conclusions about the poultry business by a writer for the Santa Rosa Republican. The same writer now proceeds to give his ideas upon buildings and appliances:

**BUILDINGS AND YARDS.**—Before building houses or yards for poultry, I think a plan of the branch of business to be taken up should be decided upon. Consider if the keeping of fowls for the sale of eggs of finestock for hatching purposes would be likely to prove profitable in the location of your plant, for if you conclude that it would, the yards and houses should be constructed differently for those you would need for either flocks for egg production or for meat purposes. Instead of accommodations for from twenty to forty being provided, but nine females and one male would need to be yarded and housed to gether and the plan of having small houses, instead of one large one partitioned off, I think is generally conceded to be the best. A small building, 6x8 feet, with a shed roof, would answer very well. Every house, no matter how small, should have a window in it; fowls are afraid to go to roost in the dark. As it is the intention to keep the fowls confined in this house during a storm, the window should contain not less than six panes of glass of ordinary size. The window should, of course, be in the south side of the house and the most convenient place for the door would be in the west end; this would leave the east and dark end for the roosts. A square frame built of boards to be used to confine litter from the barn, or leaves into which grain will be thrown, will be the means of keeping the fowls busy during the stormy days when they will have to remain in doors. Those of you who have flocks will not need



me to remind you that the best layers in your yard are those which are constantly scratching, or running or dusting. They seem so busy sometimes that they do not take enough time to go to the nest boxes to deposit their eggs, but drop them in some place more convenient. In winter no ventilation at night for such a house will be needed, but a small opening somewhere above the fowls' heads should be arranged to give air during the warm nights of summer. In regard to the size of the yard, I think an enclosure 20 by 40 feet would be about right.

The houses and yards for poultry being raised for egg production and for meat should be large enough to accommodate from forty to fifty of the smaller varieties, but only from twenty to thirty of the large birds should occupy them. Flocks of these sizes are more easily managed than larger ones in case some disease should break out in the yards, and a much better opportunity is had of observing and removing any fowls showing symptoms of being unwell. There is no harm done in being a little too careful in such cases, but serious losses have resulted from not observing the first stages of sickness soon enough, and of being dilatory in taking measures to prevent the spread of the disease after it had first been detected.

**SITES.**—In choosing the site for the poultry houses and yards, a gentle slope in any direction is preferable to a level piece of land, and if the slope is to the southward it will be all the better. Houses should face the south and most of the sashes—two full sized windows, if possible—should be in that side. The sun on clear days would warm and make cheerful the house provided with such windows, and during cloudy or stormy weather, the fowls, instead of moping about, would exercise and keep themselves warm scratching in the litter.

**DESIGNS FOR HOUSES AND OUTFITTINGS.**—There are so many good designs for poultry houses that when one is ready to build it is quite difficult to decide upon the one to be chosen. Two things should be considered carefully before any plan is accepted: How small and, consequently, cheap can the building be to comfortably house the flock, and will it be convenient for the one who has the feeding and care of the fowls. A house for a single flock should not be smaller than 10x16 feet, and if 4 feet of this space were taken from one side, for an alleyway, the fowls would have 10x12 for roosts, scratching beds, nest boxes and dust baths. Wooden platforms under the roosts would be needed for such a small building, the floor of which could be either the ground or of boards.

The next boxes should be placed on a shelf, 18 inches from the floor, on the side of the room next the alleyway; the feeding troughs will be in the alleyway and reached by the fowls through a slat partition.

A larger house, partitioned for two flocks, would be cheaper to build than two separate houses, and would be found very convenient. The dimensions should be 14x26 feet, the alleyway should be either 4 or 6 feet in width. The same arrangement for feeding as in the single house would be found as convenient. In regard to the yards, each flock should have about a quarter of an acre to range over. Care should be exercised in setting the posts for the fence, which should not be more than 10 feet apart. From the ground for about 20 inches the fence should be of boards and above this the netting should be stretched taut and firmly fastened.

Now, if you are keeping poultry and your hens are doing as well as you could wish at this season of the year, you are an exception, and this letter is not intended for your eyes. But I should not be surprised if when Neighbor Smith reads it, he does not send for lumber for a house for the chickens he allows to roost in the trees at night. Then there is Mr. Brown, who built a good house but failed to put the battens on, and one can see daylight all around from the inside. He will fix that house, I feel sure. He knew all the time it

was the cause of his chickens getting the sneezing fits they had. As for Jones, who has such a good location on the county road, he has often had people come to him for fine stock, which he was unable to supply, and I think he has about made up his mind to risk a little money in a branch of the poultry business that promises such good profits.

## FRUIT MARKETING.

### Growing or Marketing the Proper Subject for the Fruit Growers' Convention?

To THE EDITOR:—Permit me, as one of the old guard of the Fruit Growers' Convention, a word to justify the action of the management in placing on the program many papers on the transportation and selling of fruit.

When you have caught your hare you don't need to catch him again; but a lesson in cooking him is quite in order. California, aided by Wickson's "California Fruits," a compendium of her horticultural experience, has learned so well how to grow fruit that all the world sends experts to take lessons in our school. But California (General Chipman or any other man to the contrary, notwithstanding,) is only now painfully learning how to market the same at a profit. Distance has been a terrible handicap, and Wickson's book don't tell us how to win the race in spite of that handicap.

So, though I don't believe in "hysterical and spectacular polemics," I do believe most fully that to discuss an Isthmian canal, an up-to-date parcels post, the ownership of the country's roads (yes, even railroads—the highroads of to-day!) by the people, the theory and practice of co-operation, the San Francisco free market, and kindred topics, is the all-important matter for the fruit growers of to-day in convention assembled.

For one grower who wants to know how to grow fruit there are at least a dozen who want to learn how to profitably market what they grow.

As to "the largest growers of the State" not being present, obviously they, of all others, have no need to learn how to grow fruit, and some—as I pointed out years ago in your columns—do not care to tell what they know about marketing. It is delicate and sometimes dangerous ground to tread on; the ice is thin when the refrigeration pool is reached and waters below are deep and cold. So, for my part, I hope the fruit growers' conventions will keep up their discussions on parcels post, etc.

EDWARD BERWICK.  
Pacifi Grove, Dec. 20.



### GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

**KENDALL'S SPAVIN CURE**

When you see the above trade mark on a label you are sure that you are getting the genuine **KENDALL'S SPAVIN CURE**.

That means that you are getting the only absolutely time tested and reliable remedy for Spavin, Ring Bone, Curb, Splint and all forms of lameness in horses. A single bottle may save your horse. It has worked that way in thousands of cases. Note this man's experience:

Wausau, Neb., March 13, 1902, P. O. Box 347.  
Gentlemen:—You may remember I sent for your book, "A Treatise on the Horse and His Diseases," about a year ago. At that time I was using your Kendall's Spavin Cure on a *Bone Spavin* of about eighteen months standing. I used *two and one-half bottles* and now there is *no spavin*, not even a bunch. You may use my name among your testimonials if you wish.  
Yours truly, D. E. SEGER.

For sale by all druggists. Price, \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free for the asking, or address

**Dr. B. J. Kendall Company,**  
Enosburg Falls, Vermont.

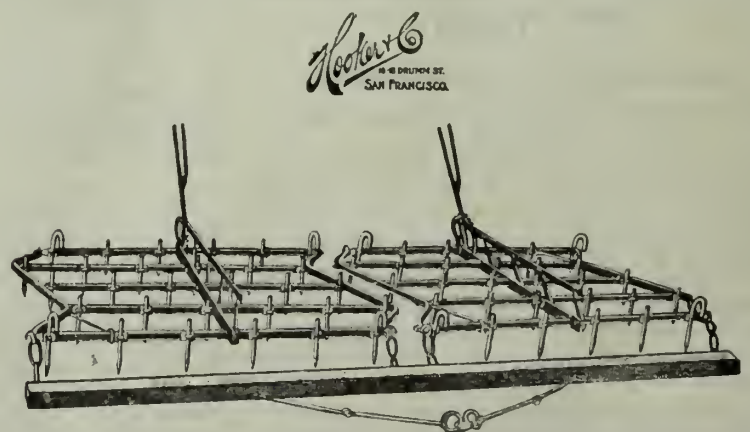
## CHOICE TULARE LAKE ALFALFA SEED.

Do you want to buy your seed direct from headquarters and save money?

We are offering choice Alfalfa Seed grown about Tulare Lake in either car lots or less.

If interested, write us for samples and prices. Samples free to any address.

**KUTNER - GOLDSTEIN CO.,**  
HANFORD, CAL.  
Largest Dealers of Alfalfa Seed in the State.



### Orchard Lever "U" Bar Harrow with Channel Frame.

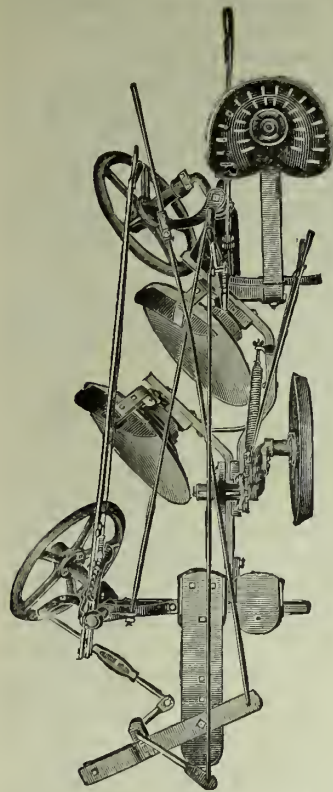
For orchard work we furnish guard rails on outer sides to prevent injury to trees.

**THE STRONGEST ORCHARD HARROW MADE!**

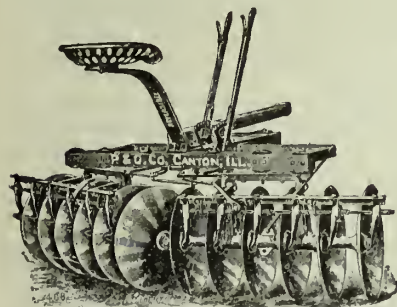
**Hooker & Co.**

16 & 18 DRUMM ST., SAN FRANCISCO.

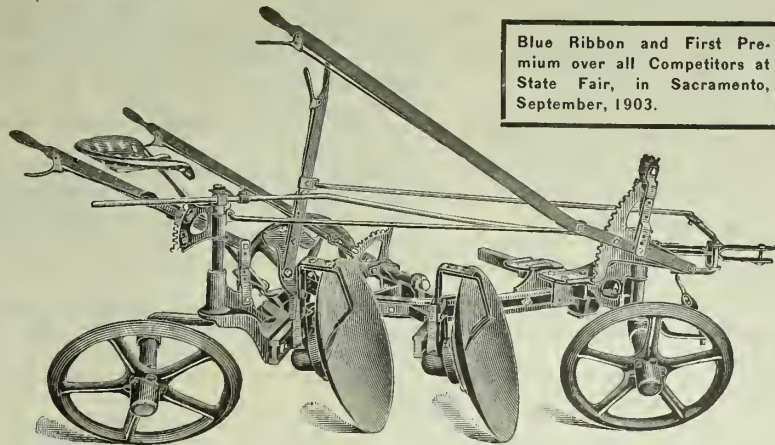




LA CROSSE DISC PLOW.  
Orchard Style --Top View.

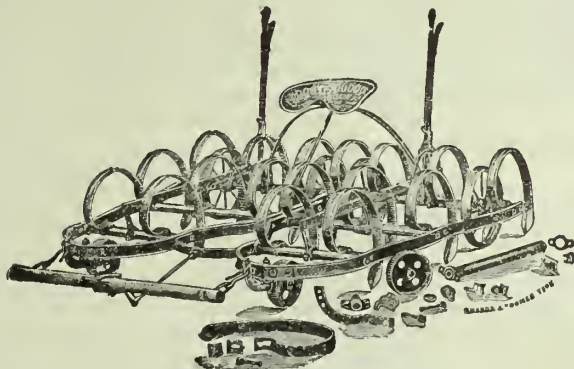


"Canton" Reversible Disc Harrow.



LA CROSSE TWO-DISC PLOW (Field Style).

We can supply 1-2-3-4-5 or 6-Disc Plows.  
Notice the perfect land guage and leveling lever  
on rear wheel.



"York" Spring Tooth Lever Harrow, with Wheels

**HOOKE & CO.**  
16 & 18 DRUMM ST.  
**SAN FRANCISCO.**



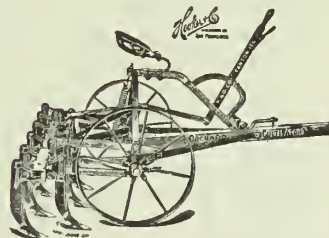
"Canton" Pony Disc Harrow.



"Canton Success" Sulky Plow.



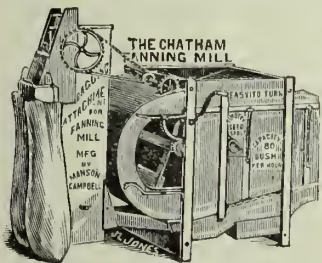
No 38.. "H & B" Pony Orchard and Vineyard  
Gang Plow.



"Canton" Orchard Cultivator.



"Kentucky" Disc Drill, Steel Frame.



The above cut represents the "Famous" Chatham  
Fanning Mill with Sacker Attached, which won the  
First Prize at the State Fair, Sacramento, Cal.,  
this fall.

## Clean Your Grain for Seed.

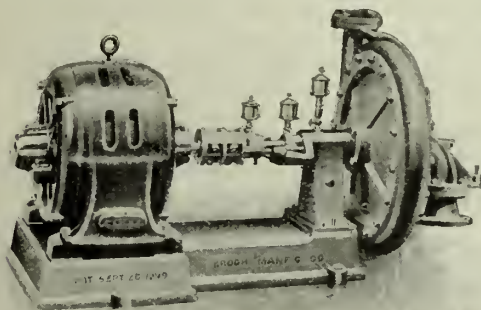
Foul seeds and cracked grain require just as much  
time to put into the ground and just as much room  
in the ground.

This machine will clean any kind of grain, taking  
out all foul seeds, separating oats from wheat,  
cleaning and grading barley, cleaning alfalfa. We  
have special screens for cleaning all sizes of beans.  
Over one thousand of these Fanning Mills now in  
use in California.

Send for one of our beautiful circulars, telling  
you how to make "Dollars Out of Wind."

We pay all freight.

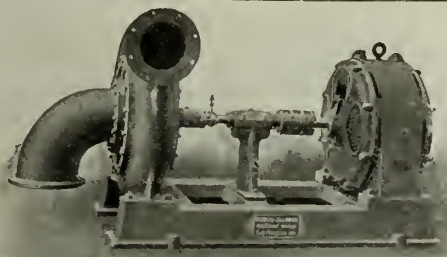
**GEO. W. FOOTT,**  
General Agent, **FRESNO, CAL.**



## TRIED AND TRUE KROGH PUMPS.

First and last and always best for all  
kinds of work.

Send for our Catalogue "L." Address  
**KROGH MANUFACTURING CO.**  
519 Market Street San Francisco.



## WONDER OF THE AGE.

JACKSON'S LATEST IMPROVED  
CENTRIFUGAL PUMP for raising  
water from 10 feet to 2000 feet.

Efficiency 70 to 84%, if properly in-  
stalled.

For irrigating, reclamation, min-  
ing, etc.

**BYRON JACKSON MACHINE WORKS,**  
411 Market St., San Francisco.

Jackson Patent Special Horizontal Centrifugal Pump Direct  
Connected to Motor.

**GREENBANK**

**BEST PRUNE DIP.  
POWDERED 98% CAUSTIC SODA.  
PURE POTASH.**

[ELATERITE IS MINERAL RUBBER.]

YOU MAY INTEND BUILDING or find it necessary to REPLACE A WORN-OUT ROOF.

## ELATERITE ROOFING

TAKES THE PLACE OF SHINGLES, TIN, IRON, TAR AND GRAVEL, and all prepared roof-  
ings.

For flat and steep surfaces, gutters, valleys, etc. Easy to lay. Tempered for all climates. Reason-  
able in cost. Sold on merit. Guaranteed.

It will pay to ask for prices and information.

**THE ELATERITE ROOFING CO.,**  
713 Market Street, San Francisco.

LOS ANGELES.....BYRNE BUILDING. PORTLAND.....WORCESTER BUILDING  
SEATTLE.....ARCADE BUILDING. SPOKANE.....ZIEGLER BUILDING



## "EMPIRE KING" SPRAY PUMP.

the only pump with automatic brush for keeping  
strainer clean. No burning of foliage as it stirs thor-  
oughly. Throws finest spray, and works the easiest.  
All working parts are of brass. **Specially Adapted**  
to Distillate Emulsion. We publish a booklet entitled  
"When to Spray and Why," and mail it free to all inter-  
ested inquirers. Write for a copy.

Made only by **FIELD FORCE PUMP CO.,** Lockport, N. Y.

**California Spray Pump Co.,** Sole Agts. for California.  
P. O. Box 717. 134 S. Broadway, Los Angeles, California.

**FRANCIS SMITH & CO.,**  
Manufacturers of

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., All Sizes.

83 FREMONT STREET, SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools sup-  
plied for making pipe.

Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

**100 FINE SILK PIECES,**  
Extra large size, lovely colors  
for fancy work, only 15 cents post-  
paid. 2 lots for 25 cents. Money  
returned if not as represented. Address,  
**EXCELLO CO.,** 472 Main St., East Orange, N. J.

**DEWEY, STRONG & CO.**  
**PATENTS**  
330 MARKET ST. SF.



# The Home Circle.

## The Closing Year.

'Tis midnight's holy hour and silence now  
Is brooding, like a gentle spirit, o'er  
The still and pulseless world.  
Hark! on the winds the bell's deep notes  
are swelling—  
'Tis the knell of the departed year.

No funeral train is sweeping past;  
Yet on the stream and wood  
With melancholy light the moonbeams  
rest.

Like a pale, spotless shroud:  
The air is stirred as by a mourner's sigh,  
And on yon cloud that floats so still and  
placidly through heaven

The spirits of the seasons seem to stand—  
Young spring, bright summer, autumn's  
solemn form.

And winter with his aged locks—and  
breathe

In mournful cadences that course abroad  
Like the far wind harp's wild and touch-  
ing wail.

A melancholy dirge o'er the dead year,  
Gone from the earth forever.

'Tis a time for memory and for tears.  
Within the deep, still chambers of the  
heart a specter dim,  
Whose tones are like the wizard voice of  
Time,

Heard from the tomb of ages, points its  
cold

And solemn finger to the beautiful  
And holy visions that have passed away  
And left no shadows of their loveliness  
On the dead waste of life. That specter  
lifts

The coffin lid of hope, and joy, and love;  
And, bending mournfully above the pale  
Sweet forms that slumber there, scatters  
dead flowers

O'er what has passed to nothingness.

The year has gone, and with it many a  
glorious throng

Of glorious dreams. Its mark is on each  
brow.

Its shadow in each heart. In its swift  
course

It waved its scepter o'er the beautiful,  
And they are not. It laid its pallid hand  
Upon the strong man, and the haughty  
form

Is fallen, and the flashing eye is dim.  
It trod the hall of revelry where thronged  
The bright and joyous, and the tearful  
wall

Of stricken ones is heard, where erst the  
song

And reckless shout resounded. It passed  
o'er

The battle plane, where sword, and spear  
and shield

Flashed in the light of midday, and the  
strength

Of serried hosts is shivered and the grass,  
Green from the soil of carnage, waves  
above

The crushed and moldering skeleton. It  
came

And faded like a wreath of mist at eve,  
Yet, ere it melted in the viewless air,  
It heralded its millions to their home  
In the dim land of dreams.

Remorseless Time! Fierce spirit of the  
glass and scythe! What power

Can stay him in his silent course, or melt  
His iron heart to pity? On, still on,  
He presses, and forever. The proud bird,  
The condor of the Andes, that can soar  
Through heaven's unfathomable depths,  
or brave

The fury of the northern hurricane,  
And bathe his plumage in the thunder's  
home,

Furls his broad wings at nightfall, and  
sinks down

To rest upon his mountain crag—but  
Time

Knows not the weight of sleep or wear-  
iness,

And night's deep darkness has no chain to  
bind

His rushing pinion. Revolutions sweep  
O'er earth, like troubled visions o'er the  
breast

Of dreaming sorrow: cities rise and sink,  
Like bubbles on the water; fiery isles  
Spring blazing, from the ocean, and go  
back

To their mysterious caverns: mountains  
rear

To heaven their bald and blackened cliffs  
and bow

Their tall heads to the plain; new empires  
rise,

Gathering the strength of hoary centuries,  
And rush down like the Alpine avalanche,  
Startling the nations; and the very stars,  
Yon bright and burning blazonry of God,  
Glitter awhile in their eternal depths,  
And, like the Pleiad, loveliest of their  
train,

Shoot from their glorious spheres, and pass  
away,

To darkle in the trackless void; yet Time,

Time the tomb builder, holds his fierce  
career,  
Dark, stern, all pitiless, and pauses not  
Amid the mighty wrecks that strew his  
path,  
To sit and muse, like other conquerors,  
Upon the fearful ruin he has wrought.

—George D. Prentice.

## A Got-up Thing.

Mary lifted her head. Her face was  
very white, and she clenched her hands  
to prevent them trembling as she met  
the old doctor's eyes.

"Yes, I shall marry Captain Tenby  
now," she said unsteadily. "He—he  
spoke last night, and I—"

She got up suddenly and turned from  
Dr. Grey's searching look.

"I said yes," she added abruptly.

"I remembered—it breaks my heart to  
remember how father has wished it and  
how obstinate I have been, now—his  
last wish—oh, I must. It will make  
him so happy, and I—I shan't have  
many more chances of making him  
happy."

Her voice broke, and the doctor got  
up and going over to her put his hands  
on her shoulder.

"But this young man, Mary," he  
said. "You think you will be happy  
with him?"

Mary hesitated. Then for her father's  
sake she acted a lie.

"Do you think I shall not?" she  
cried. "Surely he's all I could wish?  
Oh, yes; I—I shall be happy."

Dr. Grey looked dissatisfied as he  
turned away. It was prejudice, no  
doubt, but he did not like the Hon.

Arthur Tenby, and in his eyes he was  
not a fair match for the girl who would  
soon be the mistress of Treherne Court.

He frowned out of the window at the  
stretch of lawn and the empty beds  
upon it. A few weeks ago they had  
been gay with summer flowers, and  
now a change in the weather had  
brought all the desolation of winter  
upon the garden: it reminded him of  
the change that had come over the  
house in as short a time. He turned  
again to Mary. She was staring out  
of the window, too, seeing ugly things  
on the patch of grass—she saw Geoffrey  
Kaye, thrown from his horse, dead or  
dying on an empty road, and she saw  
the face of the man she was going to marry  
and behind it the face of the man she  
loved.

She shivered a little in spite of her  
resolve. Her marriage with Arthur  
Tenby had always been her father's  
fondest wish. He was of good family,  
the son of a lord, and marrying with him  
seemed a wonderfully good thing for  
the adopted daughter of Geoffrey Kaye,  
even though she would be rich when he  
died.

Geoffrey Kaye had adopted her  
wholly when she was three years old,  
and for nearly twenty years she had  
been a daughter indeed to him. Now  
he had been suddenly thrown from his  
horse and was dying slowly in the great  
house, and Mary, remembering his wish  
to see her married to a title, had ac-  
cepted Arthur Tenby because in a  
week or so—perhaps in less—she would  
never have another chance of giving  
happiness to the old man who had been  
in every way a father to her. She had  
told him the same night what she had  
done, and the smile that had flashed  
into his face had seemed to her re-  
ward enough, until next day, and then  
with the daylight came the memory of  
another man, and that morning life  
seemed an ugly outlook to her.

Dr. Grey turned from the flower beds  
and looked at her.

"Geoffrey would only want it if he  
thought you would be happy," he said.

"You know he loves you as much as if  
you were his own daughter."

Mary faced around quickly.

"Oh, I know—I know," she cried  
brokenly. "But I am—I shall be  
happy."

Dr. Grey pulled his beard. A week  
ago he had seen Mary and another  
man—Dick Marlone—together, and  
their attitudes told him something that  
Mary would not have confessed for  
worlds. He remembered it now, and  
that Dick was poor; and he frowned  
again.

A few minutes later some one came  
from the sickroom to tell him that Mr.  
Kaye was sinking fast. His hands  
traveled restlessly over the counter-  
pane. Mary bent over him.

"The will," he cried feebly, "I want  
to sign."

He pointed to a table on which were  
some papers. Dr. Grey brought them,  
and a pen and ink, and putting them  
before him held him up while he  
scratched his name feebly on the parch-  
ment.

Dying men have strange fancies  
sometimes, and it had been Mr. Kaye's  
fancy during the last few hours to make  
a fresh will and to do it without a law-  
yer.

No one could understand why, but  
he had been unaccountably restless until  
it was done. Now his dying eyes stared  
dimly at his feeble signature, and his  
fingers dropped the pen.

"Read it," he said slowly, and Dr.  
Grey obeyed. It was apparently the  
same as his other will, which was at the  
moment in his lawyer's office, and this  
had only been done in order to humor a  
dying man.

Dr. Grey read it carefully.

"The last will of me, Geoffrey Kaye,"  
the sick man repeated slowly. "Yes—  
everything—to my daughter, Mary—  
everything to my daughter, Mary!"

He fell back and stretched out his  
hand.

"Take it away, now," he said. "Put  
it in my desk yonder. I shan't be  
long now."

Dr. Grey obeyed, and Mary took her  
father's hand.

"Oh, father, father!" she cried un-  
der her breath.

He looked into her face.

"My good little girl," he said slowly.

"My good little girl. You'll always re-  
member, Mary—I want you to be  
happy? You'll remember that?"

Mary's eyes filled, and she put her  
head down on the pillow beside him to  
hide her tears.

A few days later Geoffrey Kaye was  
dead, and a few days later still Mary  
sat facing a small group of people in  
the library in Treherne Court. She  
looked whiter than ever in her black  
mourning frock, and her eyes were  
heavy and red rimmed.

"I suppose it is all right," she said,  
wearily. "If Mr. Guest is satisfied, I  
shall not dispute it. Oh, I couldn't dis-  
pute it."

The woman who faced her lifted her  
head boldly. She was a dark, thickset  
woman, as unlike the late Geoffrey  
Kaye as it was possible to be. Yet,  
nevertheless, there seemed to be not  
the slightest doubt that she was his  
daughter. Mr. Guest, the solicitor, and  
old Dr. Grey had tried to find some  
flaw in her story, but it seemed right  
enough.

Twenty-five years ago Mr. Kaye's  
wife had deserted him, taking with her  
her two-year-old baby. They had been  
very poor, and Mrs. Kaye hated pov-  
erty as fiercely as foolish, empty-  
headed women do sometimes hate it. It  
was Mrs. Kaye's one strong emotion—  
hatred of the poverty which kept her  
from the luxuries of life, and she left it  
for what she stupidly believed was far  
better.

When Mr. Kaye got his divorce she  
married again, only to plunge some  
years later, when her second husband  
had run through his fortune, into pov-  
erty deeper still. Apparently it broke  
her heart, for she died, leaving her  
child to the care of her husband—an  
adventurer, swindler and thief.

How they had lived since her mother's  
death Claudia Kaye did not care to  
say, but she had come upon Treherne  
Court by accident (so she informed  
them), had probably tried to blackmail  
Mr. Kaye, and would no doubt have  
tried again had he not met with the  
accident. She had seen him and spoken  
to him, she said, and he had owned her  
as his daughter.

Now she claimed the estate; and both  
Mr. Guest and Dr. Grey were dis-  
heartened and troubled, for the last will  
Mr. Kaye had made had upset every-  
thing and played straight into the  
hands of the woman before them, for he  
had distinctly written his "daughter"  
instead of his "adopted daughter," as  
he had meant to do. His other wills

each had "adopted" prefixed, but this  
last—that strange fancy to rewrite his  
will—had undone everything.

And it was absolutely unnecessary—  
unless, indeed, the memory of the past  
had affected him and made him wish to  
reinstale his own daughter.

Yet they could not believe that, for  
he had not mentioned her—had not  
even hinted at her existence—before he  
died. It was Mary's name which had  
been on his lips.

"Well," said Mr. Guest to the claim-  
ant, "if you can prove that you are in-  
deed Mr. Kaye's daughter, I am afraid  
you will have a clear case. But you  
must prove it first."

A week later the news was spread  
that Mary was an heiress no longer—  
but a poor girl with her living to get.

The Hon. Arthur Tenby could not re-  
alize it—could not believe that such mis-  
fortune would overtake him, for Mary  
was the prettiest girl he knew, and it  
was so hard to give her up.

Still, he did it as gently as he could,  
in Dr. Grey's house, where she had  
gone to live for a while. It was such a  
pitiful thing, he thought, that people  
so well suited to each other should have  
to part, and at one moment he was  
almost tempted to risk everything—to  
throw away his ambition to marry an  
heiress and fight poverty with Mary.

The feeling vanished in an instant  
when he remembered his embarrassed  
affairs, and he told her outright that  
he could not afford to marry yet—that  
they would have to wait for years, per-  
haps forever, and Mary decided at once  
to wait forever.

The odd part of it was that Mary did  
not care.

After he had gone she sat listlessly  
over the fire. What would become of  
her she could not tell; it broke her  
heart to think. She had not a friend  
in the world except Dr. Grey, and she  
could not live forever upon him. She  
would have to go out to earn her living  
in some way, though how she did not  
know. Life seemed horribly hopeless,  
and she almost wished she lay dead be-  
side the old man whom she had loved as  
her father.

She was shaking with sobs when the  
door opened suddenly and a young man  
entered. He was tall and straight,  
with a clean-cut, handsome face.

"Dr. Grey said I should find you  
here," he began, and then stopped.

She got up hurriedly, trying to stop  
her tears; and then an odd thing hap-  
pened considering she was a penniless  
girl whom nobody seemed to want.

Dick Marlone went up to her and  
held out his hands.

"You know what I want to say," he  
cried. "You know I love you and have  
done so for a long time. Now you are  
poor and Captain Tenby has gone I can  
speak. You know—Mary you know I  
love you. Will you be my wife?"

Mary looked up and gave a little quick  
sob of happiness.

"Oh, Dick, I believe the will has done  
me some good after all," she cried.

The odd part of it was that the wo-  
man who called herself Claudia Kaye  
was not Claudia Kaye at all, and that  
Mr. Kaye had known it and had handed  
full proofs of the death of the child  
twenty-two years before to Mr. Guest  
before he died. Then he had said, if  
Captain Tenby was the fortune hunter  
Dr. Grey said he was, it would prove  
him and save Mary a lot of unhappi-  
ness.

And it did. It was a dying man's  
fancy, and it was the wisest thing he  
could have done.

What became of Claudia Kaye no  
one knew. She had come intending to  
levy blackmail upon Mr. Kaye. She  
had reckoned without her host, for she  
did not know that he held proofs of the  
death of his own child. After Mr.  
Guest produced them she vanished, and  
Mary found herself to be a rich woman  
once more—rich and happy, for she  
married the man she loved and never  
had cause to regret it.

As for Captain Tenby, Treherne  
Court never saw him any more. He  
believes that the whole thing was ar-  
ranged on purpose, and is still angry  
at being deceived by such a got-up-  
thing.—Annie O. Tibbits.



### The Physiologic Care of Colds.

That the condition called a cold is one of repletion may be readily demonstrated. Among other evidences of this is the fact that treatment based on this theory is uniformly successful. Its acquisition is frequently attributed to some exposure, it may be from lack of wearing apparel or from atmospheric changes. But a closer examination will show this to be an erroneous conclusion, for on many occasions the observer has been exposed to a great variety of changes without any cold resulting therefrom, when, again, under other conditions, with the slightest exposure, in even the hottest weather, one may suffer from the hardest kind of a cold. This results from imperfect elimination, or an inactive condition of the excretory organs. In fact, it is the condition of the individual, rather than his exposure. The impurities of the system are being discharged through the mucous membrane, particularly of the head, instead of the proper eliminating organs. Many a time has this condition been brought about by a too generous dinner. The sudden changing from heat to cold, by going from a warm room to the cold air of outdoors, when a person is debilitated and of feeble reactive powers, frequently produces the condition called a cold. Any overwork or exhaustion of the nervous system places the body in a negative state, so there is less power of vital resistance to morbid changes. A languid, exhausted feeling is often accompanied by a headache, or inactive stomach and bowels. If the ordinary amount of labor is imposed upon those organs while in that condition, it is necessarily most imperfectly performed. Then is the body poisoned by its own impurities. Too frequently tonics are taken to spur on and still further exhaust an already weakened system.

In looking for the cause of colds, or any other disease, it is well to consider the first cause rather than the merely exciting or secondary one, which is only incidental to the disturbance. By doing this we can shape our life so as to avoid most of the disasters common to modern civilization. Ignorance of the laws of life and a man's relation thereto makes of him a slave, while knowledge of these laws gives him freedom to instantly accept and enjoy the fruits of obedience.

The invariable cause of colds comes from within, not without. No one takes cold when in a vigorous state of health, with pure blood coursing through the body, and there is no good reason why any one in ordinary health should have a cold. It may have come from insufficient exercise, breathing of foul air, want of wholesome food, excess of food, lack of bathing, etc., but always from some violation of the plain laws of health.

There can be no more prolific cause of colds than highly seasoned foods, as well as frequent eating. These give no time for the digestive organs to rest, and incite an increased flow of the digestive secretions. Thus larger quantities of nourishment are absorbed than can be properly utilized, and the result is an obstruction, commonly called a "cold" which is simply an effort of the system to expel the useless material. Properly speaking, it is self-poisoning, due to an inability of the organism to regulate and compensate for the disturbance.

A deficient supply of pure air to the lungs is not only a strong predisposing cause of colds, but a prolific source of much graver conditions. Pure air and exercise are necessary to prepare the system for the assimilation of nutriment, for without them there can be no vigorous health. The oxygen of the air we breathe regulates the appetite as well as the nutriment that is built up in the system. The safest and best way to avoid colds is to sleep in a room with the windows wide open, and to remain out of doors every day, no matter what may be the weather, for at least two hours, preferably with some kind of exercise, if no more than walking. One should not sit down to rest while the feet are wet or the clothing damp. A person may go with the clothing wet

through to the skin all day, if he but keeps moving. Exercise keeps up the circulation and prevents taking cold.

The physiologic care of colds is the prevention of their occurrence. The person who does not carry around an oversupply of alimentation in his system, and furthermore secures a purified circulation by strict, sanitary cleanliness, thus placing himself in a positive condition, is immune to colds. A starving man cannot take cold.

A careful diet would exclude the use of all narcotics and all food that is not thoroughly appropriated. An overfed person is worse off than one who is underfed, because the overfed body is taxed to dispose of what cannot be appropriated, and when not properly disposed of, remains only to be an element of danger.—Science of Health.

### Domestic Hints.

**STEAMED PUDDING.**—Mix together two and one-half cupfuls of graham flour, one cupful each of milk, molasses and seeded raisins, two small teaspoonfuls of soda, a pinch of salt a half teaspoonful of ginger. Steam two hours in a buttered mould, never allowing the water to stop boiling for a moment. Serve with a hard sauce or liquid sauce.

**CRANBERRY SAUCE.**—One quart of cranberries, one pint of water and one pound of granulated sugar. Wash the cranberries in cold water, put them into a porcelain or granite kettle, add the water, cover the kettle, and bring to a boiling point. This will take about five minutes. Press them through a colander, add the sugar and stir over the fire, just a moment, until the sugar is thoroughly melted and turn out to cool. Serve with poultry, game or mutton.

**RICH WHITE LAYER CAKE.**—Cream one-half cup of butter and beat five minutes, add one and one-half cups of powdered sugar and beat five minutes longer. Sift two cups of flour and one-half cup of cornstarch, with four level teaspoonfuls of baking powder. Add the flour and cornstarch to the first mixture alternately with one-half cup of cold water. Add last the stiffly beaten whites of four eggs and a teaspoonful of lemon flavoring. Bake in three layers and put any kind of white icing or filling between.

**SWEET POTATO WAFFLES.**—Mix well together two heaping tablespoonfuls of mashed sweet potatoes, one of melted butter, one of sugar, a pint of sweet milk, a half pint of flour, a teaspoonful of baking powder a half saltspoonful of salt and the whites of two eggs beaten stiff. Oil the waffle iron well and bake to a delicate brown. Do not fill the iron too full. Serve with maple syrup cream, which is made by beating one cupful of comb honey cut into small bits into a pint of whipped cream.

**TAPIOCA JELLY.**—Wash one-fourth of a pound of tapioca in cold water, put it over a slow fire in sufficient water to reach 2 inches above it. Cook slowly, stirring often to prevent burning. If the water is absorbed before the tapioca is cooked add a half cupful of cold water, a little at a time, so as to keep it moist. When only very small particles, white, are visible in the grains of tapioca, add one pint of any kind of fruit juice or the syrup from canned or preserved fruit. When this has been absorbed turn the tapioca into a jelly bowl and set on ice. If the fruit juice is not sweet enough add sugar to it to make the tapioca palatable.

**CHESTNUT CUSTARD.**—For a chestnut custard take large chestnuts, blanch, boil until soft, and mash through a colander. To one cup of the chestnut pulp allow three eggs, one cupful of milk, sugar to taste—the custard should not be too sweet—and a teaspoonful of vanilla flavoring. Mix the yolks of the eggs and the white of one of them to the chestnut pulp, stirring them in gradually, afterwards add the sugar, vanilla and milk. Bake slowly in a buttered dish. Make a meringue of the remaining whites and some sugar and spread it over the custard, returning to the oven long enough to brown. Garnish with candied cherries.

## Bad grocer confesses his badness by selling bad lamp-chimneys.

### MACBETH.

You need to know how to manage your lamps to have comfort with them at small cost. Better read my Index; I send it free.

MACBETH, Pittsburgh.



### THE ARNDT Tree Protector!

A perfect, inexpensive protection against all creeping and crawling insects. Agents Wanted Everywhere. **WRITE AT ONCE.** Michigan Cut Flower Exchange. WM. DILGER, Mgr. Sole Distributors, DETROIT, MICH., U. S. A.

Telephone Main 199.

### BLAKE, MOFFITT & TOWNE, DEALERS IN PAPER,

Nos. 55-57-59-61 First St., San Francisco, Cal.  
BLAKE, MOFFITT & TOWNE, Los Angeles.  
BLAKE, McFALL & CO., Portland, Or.

**FOR SALE.**—306 ACRES EIGHT MILES FROM Napa; handy to R. R. station, boat landing and school. All good land, house, two barns, shop, windmill, etc. Water piped to house and barns. Living stream on place. Five acres prunes, four acres resistant vines. Unfailing supply of firewood. Must sell to settle estate.

GEO. E. DUHIG, Administrator, Napa, Cal.

## A NEW LEAF!

We all resolve to turn over a new leaf on New Year's Day.

Why not start the year right and list your Real Estate with us? We sell quantities of it. Collections of bad debts should be made the first of the year. Don't you need the money? We can get it.

We will negotiate a loan for you. Act to-day—to-morrow never comes.

### RIVERSIDE MERCANTILE AGENCY,

Suite 18 Evans Block,

RIVERSIDE, CALIFORNIA.

## GLENN RANCH,

Glenn County, - - California.

## FOR SALE IN SUBDIVISIONS.

This famous and well-known farm, the home of the late Dr. Glenn, "the wheat king," has been surveyed and subdivided. It is offered for sale in any sized government subdivision at remarkably low prices, and in no case, it is believed, exceeding what it is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for 15 miles. It is located in a region that has never lacked an ample rainfall, and no irrigation is required.

The river is navigable at all seasons of the year, and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter,

### F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, California.

## Special Offerings!

**\$7000** Buys a splendid stock ranch of 1140 acres in Coast Range of Sonoma county, well wooded, well watered, well fenced, good improvements. A money maker; 7 miles from R. R. station.

**\$4000** Buys a neat, pretty and as profitable a ten-acre tract—full bearing orchard, mostly prunes—as can be found in Santa Clara county; warm belt; adjoins town of Saratoga; beautiful cottage of six rooms; good barn; grounds nicely kept; electric cars pass the door. An ideal and cheap place. Will exchange.

JOHN F. BYXBEE, Pa'o Alto, Santa Clara County, Cal.

### CHEAP RATES California, Washington, Oregon, Colorado.

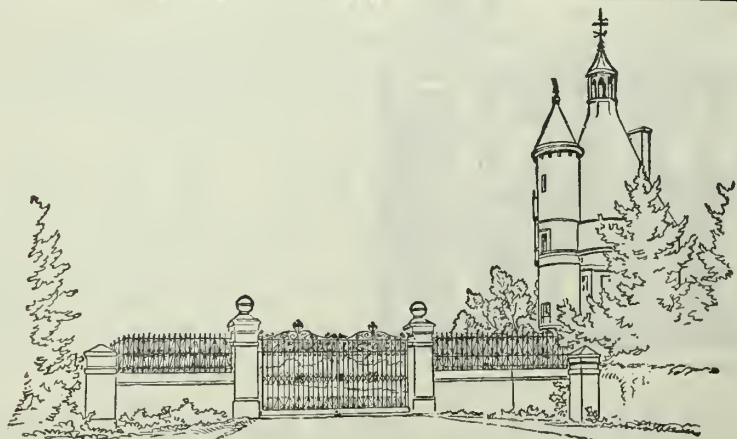
We secure reduced rates on shipments of household goods either to or from the above States. Write for rates. (Map of California free.)

### TRANS-CONTINENTAL FREIGHT CO.,

G 26 Montgomery St., San Francisco.

G 325 Dearborn St., Chicago.

G 338 So. Broadway, Los Angeles.



Entrance to Park.

Property Kearney Vineyard Syndicate, Fresno, Cal.

## ALFALFA

**KING OF DAIRY FOODS.** One acre best quality, will keep two cows all the year. No expense raising other food. With irrigation, no failure of feed.

Fresno County alfalfa fields best dairy country in California. 4,000 acres alfalfa in dairy farms for rent. Pasture for cattle by the month.

Send for particulars and new circular giving opinions of tenants now here.

KEARNEY VINEYARD SYNDICATE

KEARNEY PARK, FRESNO, CALIFORNIA

## STOCK RANCHES a Specialty.

California, Oregon, Nevada, Arizona and Mexico stock ranches for their mere value for grazing, but valuable for prospective mineral wealth, oil, storage reservoirs, agriculture, timber, or townsites. Owners obliged to sell on account of old age and ill health. Splendid values.


We have several vast tracts in southern California—well watered and famous for early feed—where grass cattle and weathers are fat in April, when meats command the highest price in Los Angeles and San Francisco markets.

How would you like to retire from the ranch business and live in the Garden City of California, famous for its excellent school system, within forty minutes of Stanford University and one hour from San Francisco—fifty passenger trains daily? We have a few city and orchard homes at unusual bargains. We can sell your ranch, cattle and everything.

CHAS. W. COE & CO., 45 West Santa Clara St., San Jose, Cal.



**SHARPLES' TUBULAR FARM CREAM Separators**



New style, improved separator, made exclusively by us—The Tubular. Old style, complicated separators, made by everybody else—the Bucket Bowl machines.

**The Tubular**  
Is worth fifty per cent more than the others as we can show you. If we can't we don't want you to buy. Write for free catalogue No. 131.

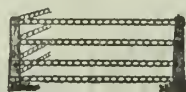
The Sharples Co., Chicago, Ill. P. M. Sharples, West Chester, Pa.

**FOUND \$7. FOR**



**A CREAM SEPARATOR** that does the work perfectly, AUTOMATICALLY, without power or chemicals, in 30 minutes. **WANTED, either sex.** Address **TALLEY SPECIALTY CO.,** Dept. C, Los Angeles, California.

## Once Up, Always Up Truss and Cable Fence

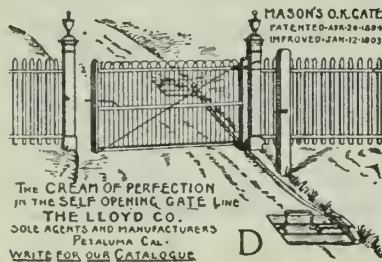


Is the most substantial fence known. It is easy to put up, and easy to keep up. No expensive special tools are required, and ordinary farm help can do as good a job as the highest skilled mechanic.

It is put up in small compact reels, weighing about 100 pounds each, and is very easily handled on the field.

Write for descriptive circular.

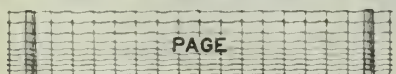
Pacific Hardware & Steel Co.  
401 Mission Street, San Francisco.



**WIRE FENCE**

GOODS CLOTH NETTING WORK BARB WIRE  
HOG COW HORSE SHEEP

WEST COAST WIRE & IRON WORKS  
19 FREMONT ST., SAN FRANCISCO

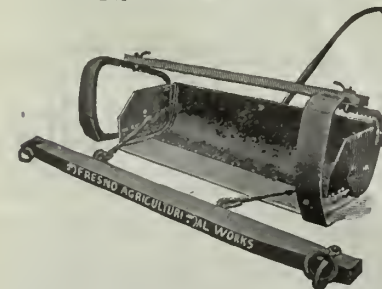


### END AND CORNER POSTS

have to be stronger and well anchored for Page Stock Fences. Fewer line posts are required. PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

## THE FRESNO SCRAPER.

3 1/2 - 4 - 5 Foot.



FRESNO, CALIFORNIA.

## Patrons of Husbandry.

### Tulare Grange.

TO THE EDITOR:—Tulare Grange convened at its hall on the 19th. After reading and approval of the minutes of the last previous meeting an application for the degrees was read and referred to a committee to report at next meeting.

The secretary read a communication from Bro. Tuck, Worthy Lecturer of the State Grange of California, on the importance of capable and efficient subordinate Grange officers, which was ordered filed.

The election of officers for next year was then held, it having been postponed from last meeting, and the following officers were duly elected: Worthy Master, F. H. Styles; Overseer, P. D. Fowler; Lecturer, John Tuohy; Steward, E. C. Shoemaker; Assistant Steward, C. E. Davis; Chaplain, Melissa Williams; Treasurer, Julius Forrer; Secretary, Bertha I. Morris; Gate Keeper, Albert J. Woods; Pomona, Kate Mull; Flora, Olie Jones; Ceres, Myra Field; Ladies' Assistant Steward, Amanda Swanson; Organist, Ella Styles. Installation at next meeting.

The subject of the day was then taken up, "The offering of prizes as an incentive to study is not a good practice."

It was generally discussed for and against, the predominating opinion being that in most cases it is good, as it tends to train in persistent application, thereby imbuing the student with application and perseverance through life.

One question was drawn from the question box, "What is the best sentence in the ritual?" Sister Styles read from the Chaplain's admonition in the second degree. Other quotations inculcating Faith, Hope, Charity and Fidelity were given. It was admitted all, and many more, are good and beautiful. No one undertook to say which was best in the manual.

A committee of three was appointed to report at next meeting a programme of subjects for discussion for the next six months.

Bro. Shoemaker read from the annual address of Worthy Master Hill of the State Grange of Pennsylvania. During the past year in Pennsylvania twenty-six new Granges have been organized and five reorganized, with an added membership of over 5000, allowing for such as may have been dropped for non-payment of dues.

The State Grange of Pennsylvania has made arrangements with business houses by which a small percentage on Grange trade is paid to the State Grange. Other State Granges have similar arrangements. In Michigan the receipts to the State Grange treasury were, last year, \$2000 from this source.

It was late when the Grange adjourned, but all declared they had enjoyed a very pleasant social meeting and a profitable session. J. T.

### Percherons at the St. Louis Fair.

The regular prizes offered for exhibits of Percherons by the Louisiana Purchase Exposition amounting to \$6205, and the special prizes of \$2225 appropriated by the American Percheron Horse Breeders and Importers Association, making a grand total of \$8430, provide a fund that will certainly stimulate to the fullest extent the evident purpose of the Percheron breeders to make an unprecedented show at the Universal Exposition of 1904.

In addition to the munificent cash prizes herewith announced for exhibits of Percheron horses at the World's Fair in 1904, the American Percheron Horse Breeders and Importers Association will give to the exhibitor making the best display of Percherons from each State especial prestige in the form of a suitably engrossed testimonial certifying that the recipient made the best State exhibit of Percherons.

OUR SALES IN 1903 OVER 3,000,000.  
TRY THEM---WE GUARANTEE SATISFACTION.



PRICE, STANDARD SIZE, \$17.50 PER M.

### A Cheap, Effectual and Permanent Method of Propping Trees.

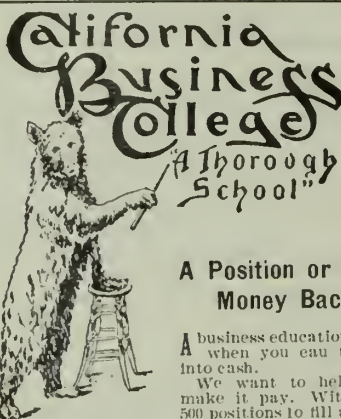
Cheaper than driving staples in the limb, and no possible damage to tree.  
Cheaper than baling rope, because permanent.

SAMPLES FREE TO ORCHARDISTS.

HOYT'S TREE SUPPORT CO.

WATSONVILLE, CAL.

Or, R. M. TEAGUE, San Dimas, Cal.  
Distributor for Southern California.



### A Position or Your Money Back.

A business education pays when you can turn it into cash.  
We want to help you make it pay. With over 500 positions to fill a year, and with the income from 400 students behind us, we are very safe in offering to write a contract with you to secure you a position when you satisfactorily complete your course of instruction, or to return your money in full. This is worth thorough investigation. Write for our 75-page illustrated catalogue.

R. L. DURHAM,  
305 Larkin St., San Francisco, Cal.



### BUSINESS COLLEGE,

24 Post Street, San Francisco, Cal.

The Leading Commercial School  
West of Chicago.

ESTABLISHED NEARLY 40 YEARS.

30 Teachers; 70 Typewriting Machines; 20,000 Graduates; 1000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. All departments open the entire year. Both sexes. Individual instruction.

Write for new Catalogue and College Journal—Free.

## WE ARE THE OLDEST SCALE MANUFACTURERS IN THE WEST.

(Incorporated in 1881.)

We have REDUCED PRICES 25%, and have retained the STANDARD that has made our goods so popular. We ship on approval. We pay the freight. We do repairing. We do as we say—save you MONEY on steel and wood frame SCALES, FEED COOKERS, GRINDERS, GASOLINE ENGINES, WIND MILLS, PUMPS, TANKS, WAGONS, CARRIAGES, SLEIGHS, HARNESS, Patent Specialties, Etc. Investigate.

UNION SCALE CO.,

Dept 17, DES MOINES, IA.

## TREES. WALNUT AND APRICOT, SELLING FAST.

We carry a full line of all leading varieties of Citrus, Deciduous and Ornamental Stock. Get our prices before buying. Price list free.

Orange County Nurseries,

RICHMAN & MILLS, Proprietors,  
FULLERTON, CAL.

## Seeds, Plants, Etc.

### BARGAINS IN BERRY PLANTS

100,000 on hand. Price 2 cents each. Lawton Blackberry and Cuthbert Raspberries, \$5.00 per M. Loganberry tips, \$15.00 per M. Address T. E. BARLOW, Sebastopol, Cal.

### BLUE GUMS, MONTEREY CYPRESS, ALL IN FINE SHIPPING CONDITION; TRANS- PLANTED IN BOXES OF 100 EACH.

Our stock is very large. Write for prices, stating quantity wanted, delivered at San Francisco.

W. A. T. STRATTON, PETALUMA, CAL.

### RIVERSIDE NURSERY, 320 River Street, Santa Cruz, Cal.

#### 5000 Apple Trees,

\$10 per 100.

4 to 6 ft.; Extra Well Rooted; Clean; Grafted on Whole Roots and Free from All Pests.

Yellow Bellflower, Y. N. Pippin.

Refer to City Bank,  
Santa Cruz.

HENRY SHAW.

### Burbank's New Productions.

Phenomenal and Mammoth Blackberry Plants. Primus and Dewberry (May's Hybrid and Lucretia).

WRITE FOR PRICES.

"FAIROAKS BERRY FARM," FAIROAKS, CAL.

### OAK MOUND NURSERY,

Lakeport, Cal. ROBT. P. EACHUS, Prop.

I have to offer, retail and wholesale, BARTLETT PEAR TREES, one year old, 4 to 7 feet, on whole roots as good as can be grown. A few hundred first-class APPLE TREES, also MAMMOTH and LOGAN BERRY TIPS, WELL ROOTED VINES.

Write for Prices!

### WAGNER'S NURSERY,

Pasadena, Cal.

Is offering the cleanest and best line of Citrus Trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata Root you insure yourself better crops and no injury from frost.  
Also full line of other Fruit Trees and Berry Plants. Drop us a card if interested.  
Telephone Suburban 108.

## PHILLIPS CLING

and other Nursery Trees at  
REDUCED PRICES!

### THE CROCKER BARTLETT PEAR a specialty!

L. L. CROCKER, LOOMIS, CAL.

### BLUE GUMS. RED GUMS.

Monterey Cypress---Transplanted in Boxes.

WRITE FOR PRICES.

Delivered on Wharf in San Francisco.

W. A. REINHOLDT, Petaluma, Cal.

### SEBASTOPOL NURSERIES

is the place to get

### Aphis Resistant Apple Stock,

Also

General Assortment of Nursery Stock.

SEND FOR PRICE LIST.

T. J. TRUE, Prop., Sebastopol, Cal.

### WE MAKE A SPECIALTY

—OF THE—

GENUINE COMMERCIAL

## Smyrna Fig Tree.

Our price is \$15.00 per 100;  
smaller lots, 25c each.

We also have a large stock of Muir and Phillips Cling Peaches, Royal Apricots and Bartlett Pears, which we will sell at low figures. Send list of your wants and get our price.

MAYWOOD COLONY NURSERY,

W. HERBERT SAMSON, Prop.

## Berry Plants.

STRAWBERRY (MALINDA, BRANDYWINE).

LOGANS,

MAMMOTH BLACKBERRY,

LAWTON BLACKBERRY,

RED RASPBERRY (Cuthbert),

"PRIMUS" BLACKBERRY,

Something new. Fruiting season earlier than any other Blackberry. Money maker. Bushes incline to trailing habit. Send for descriptive circular.

Address O. O. EATON, Watsonville, Cal.



## Seeds, Plants, Etc.

ESTABLISHED 1876.

### THE Myrobolan Nursery

JAS. O'NEILL, Prop.

Haywards, Alameda Co., Cal.

Grower of the Leading Varieties of

### Deciduous Fruit Trees.

No Irrigation,

Free from Borers, Other Pests or Disease.

Specialty: Apricots and Prunes on Myrobolan Root

Estimates Furnished on all Lists.

Inspection of Stock Invited Before Purchasing.

Correspondence Solicited.

## NAPA VALLEY NURSERY CO.

INCORPORATED 1902.

### Fruit Trees and Grape Vines,

#### Resistant Rooted Stock,

RUPESTRIS ST. GEORGE,  
GLOIRE MONTPELIER.LOGAN BERRIES, MAMMOTH BLACKBERRIES  
and other small Berries.

Write for Price List!

NAPA, CALIFORNIA.

## TREES

—AND—

## VINES.

LEADING  
COMMERCIAL  
VARIETIES.

Silva &amp; Bergtholdt Co.

NEWCASTLE, CALIFORNIA.

Write for Price List.

## BERRY PLANTS

Logans, and Gray's Gardena Dewberries  
SPECIALTIES.These Dewberries have produced over 5 tons of fruit  
on ½ acre. For descriptive list, address

W. J. EMBREE,

Rural Box 61.

El Monte, Los Angeles Co., Cal.

## TREES

FRUIT and ORNAMENTAL  
SHADE TREES for  
STREET and ROADSIDE.

Olives, Oranges, Lemons, Grape Vines, Resisting Vines.

NUT TREES JORDAN ALMOND, CHESTNUT, WALNUT AND  
PISTACHIO NUT.

Complete Stock of Large Palms, Evergreens, Roses, Climbers and Flowering Shrubs.

New Catalogue of 72 Pages Mailed Free.

CALIFORNIA NURSERY CO., Niles, Cal.

JOHN ROCK, Manager.

## TREES.

APPLE,  
CHERRY,  
PEACH,PLUM,  
PRUNE,  
APRICOT.GRAPE VINES, LOGANBERRY, MAMMOTH BLACKBERRY,  
STRAWBERRIES, RASPBERRIES, CURRANTS, GOOSEBERRIES.

## BULBS

FOR FALL PLANTING.

CATALOGUE FREE ON APPLICATION.

TRUMBULL &amp; BEEBE,

Seedsman and Nurserymen, 419-421 Sansome St., San Francisco.



### A MONOGRAPH

ON THE  
ORANGE AND LEMON

Is yours for the asking. It treats on planting, cultivating, pruning, irrigating, harvesting the crop, and all the leading varieties. Fully illustrated with many fine half-tone engravings showing typical orchards, with a description of our methods for producing vigorous citrus trees that will grow and are true to name.

SAN DIMAS CITRUS NURSERIES  
SAN DIMAS, CAL.

PEACH. Phillips Cling, Levy's and Muir.

ALMOND. I. X. L., Non Pareil, Ne Plus Ultra, Drake's Seedling.

PRUNES. French and Sugar.

COTS. Blenheim and Royal.

APPLES. Leading sorts.

Large stock of Roses and Ornamentals.

Buy the RIGHT trees at the RIGHT price.

SEEDS of all kinds.

Send name for 1904 catalogue. 200 illustrations. Ready January 1st.

### COX SEED CO.

411-413-415 Sansome Street,  
San Francisco, Cal.

ROCKY FORD CANTALOUPE SEEDS.

Our seeds are saved from the sweetest and most thoroughly meated cantaloupes. Price \$1.00 per lb. Special price in large quantities. You can't beat them. We grow the best. FARMERS' AND MERCHANTS' BANK Rocky Ford, Colo.

## Calimyrna Fig Trees.

The Calimyrna Fig is the genuine Smyrna Fig of commerce, the one fig that is fit for commercial purposes. It was developed and named by Geo. C. Roeding. It is grown true to name at the Fancher Creek Nurseries. If you want the genuine and original Calimyrna Fig, buy direct and insure trees that are true to name. The reputation of the originator and of the Fancher Creek Nurseries is at stake, and no trees will be sold that are in any way questionable.

"The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages, illustrated, sent postpaid for 25 cents stamps.

Fancher Creek Nurseries, Inc.

Box 18, FRESNO, CAL.

GROWERS OF TREES AND VINES OF ALL SORTS.

## CHICO NURSERY CO. (INC.)

We offer a full line of TREES, VINES (including RESISTANT GRAPE STOCK), ORNAMENTALS,

BUY  
STURDY  
CHICO  
TREES.

BLACK WALNUT (Eastern and Californian), CAROLINA POPLARS, etc., grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and PAY. Why not order early, plant early, and not get swamped with work next spring?

CHICO NURSERY CO., 1200--3rd St.  
Chico, Cal.

## OREGON NURSERY CO.

SOLE PROPRIETORS AND INTRODUCERS OF  
BURBANK'S NEW PLUM-MAYNARDTHE GREAT FROST-RESISTING  
TILTON APRICOT

Also the most complete line of Deciduous Fruit, Shade and Ornamental Trees, Shrubs, Plants, etc., on the Pacific Coast. See our Traveling Salesman, or write for complete catalogue and price list. Address

SALEM OREGON

12th Street.

## FRUIT TREES, All Kinds.

LET US PRICE YOUR LIST OF WANTS.

MAYBE WE CAN SAVE YOU SOME MONEY.

1904 CATALOG NOW READY.

SPECIAL PRICES TO  
LARGE PLANTERS.

PIONEER NURSERIES CO., Salt Lake City, Utah.

## California Fruits.

NEW EDITION (3rd).

LARGELY REWRITTEN.

By PROF. E. J. WICKSON.

Price \$2.50, Postpaid Anywhere.

## CALIFORNIA VEGETABLES

—IN—

### GARDEN AND FIELD.

By PROF. E. J. WICKSON, Author of "California Fruits."

Price, \$2.00 Postpaid.

PACIFIC RURAL PRESS, Publishers, 330 Market St., San Francisco, Cal.



## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**HOLSTEINS**—Butter bred working herd. Herd established 1885. Winners over Jerseys, of every Butter Contest at State and County Fairs—Holsteins whose sires and dams were bred by me **WON EVERY PRIZE** at last State Fair (1903). Frank H. Burke, 30 Montgomery street, San Francisco, Cal.

**CALIFORNIA'S PREMIUM HERD OF** Registered Shorthorns. Young stock for sale. Send for catalogue. Estate of Wm. H. Howard. 206 Sansome St., San Francisco.

**JERSEYS, HOLSTEINS & DURHAMS.** Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. Wm. Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

**BULLS AND COWS FOR SALE**—Short Horned Durhams. Address E. S. Driver, Antelope, Cal.

**A. J. C. JERSEYS.** Service bulls of noted strains. Joseph Mailliard, San Geronimo, Marin Co., Cal.

**BULLS**—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

**PETER Saxe & Son,** Lick House, S.F., Cal. Importers, Breeders and Dealers for past 30 years. All varieties Cattle, Horses, Sheep, Hogs. High class breeding stock. Correspondence solicited.

**JERSEYS**—The best A. J. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

### SWINE.

**PERKINS & CO.,** Sacramento, Cal. Twenty exhibits and eighteen premiums on Berkshires at California State Fair 1903. Stock for sale.

**THE SAN GABRIEL VALLEY HERD OF** Ohio Poland-Chinas won 10 premiums at the State Fair at Sacramento in 1903; won gold and silver medal. Young stock for sale. W. R. McCaslin & Son, Cosumnes, Sacramento Co., Cal.

**BERKSHIRE, POLAND-CHINA & DUROC HOGS.** Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**A. GORDON,** Hueneme, Ventura Co., Cal. Breeder of registered "O. I. C." (Ohio Improved Chester) Swine. All ages for sale.

**THOMAS WAITE,** Perkins, Cal. Prize-winning Berkshire Hogs. Jersey Cattle.

**BERKSHIRE AND POLAND-CHINA PIGS,** both sexes. C. A. Stowe, Stockton.

**THOROUGHbred POLAND-CHINAS FOR SALE,** either sex. Boars ready for service. Clark & Bishop, Kingsburg, Cal. Sue's Lindgren & Sons.

**FOR SALE**—Registered Berkshire Hogs. Geo. C. Roeding, Fresno, Cal.

**P. H. MURPHY,** Perkins, Sae, Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

### POULTRY.

**BARRED P. ROCKS,** P. Fisher, Carlsbad, Cal.

**SAMUEL M. COPPIN,** Cottonwood Farm, via Pleasant Grove, Cal. Choice fowls.

**WM. NILES & CO.,** Los Angeles, Cal. Nearly all varieties chickens, geese, ducks, peafowl, etc.

**WHITE MINORCAS,** Pekin Ducks and Barred Rocks. Willis S. Rose, Antioch, Cal.

**BUFF** Orpingtons, Sunbeam Yards, Carlsbad, Cal.

**C. B. CARRINGTON,** Haywards, Cal. White Leghorns. Eggs \$5.00 per 100; \$45.00 per 1000. Send for folder giving prize record from 1899 to Dec. 1903.

**SANTA TERESA POULTRY FARM,** Eden Vale, Santa Clara Co., Cal. White and Brown Leghorns, White Wyandottes, Buff Cochins, Black Minorcas, White Cochins Bantams. A lot of fine cockerels at \$2 up. Eggs in season, \$2 to \$3 per setting. Agents Eclipse Leg Bands; sample 2c.

**BRONZE TURKEYS.** Ed. Hart, Clements, Cal.

### SHEEP AND GOATS.

**C. P. BAILEY & SONS CO.,** San Jose, Cal. Importers and breeders of pure-bred Angora Goats and Persian Fat-Tailed Sheep. Bucks for sale.

### BREEDERS' SUPPLIES.

**GEO. H. CROLEY,** 508 Sacramento St., San Francisco. Manufacturer and Dealer in **Poultry Supplies** of every description. Send for catalogue—FREE.

**OAKLAND POULTRY YARDS,** Breeders of all the Leading Varieties of Fowls. Dept. 31, Box 2092, San Francisco. Mfrs of Pacific Incubator and Brooder. Send for Catalogue.

### California's Finest Holsteins

Herd headed by sires whose dams have seven-day official records of over twenty-five pounds of butter. Over sixty (60) cows and heifers in our herd have official advanced registered records. Young Bulls for sale.

**PIERCE LAND AND STOCK CO.,** No. 14 Turk Street, San Francisco, Cal.



## PROFITS FROM POULTRY

Depends Upon How and What You Feed.

Coulson's Egg Food, a balanced ration or ready mixed feed for laying hens, is what makes the hens lay lots of eggs; and now that eggs are bringing a good price you should purchase a ton or two of this feed and make some money out of your hens this fall.

When you start to raising little chicks, try feeding them Coulson's Chick Food and see them grow. Coulson's Chick Food is a mixture of 14 different grains, seeds and meals, machinery mixed and proportioned so as to meet all the needs of growing little chicks and to fully nourish them.

125 AGENCIES IN CALIFORNIA. Send address for Illustrated Catalogue and Poultry Account Book, Free.

**A. R. COULSON CO., Inc.,** Petaluma, Cal.

**IF** You vaccinate your stock,  
You contemplate vaccinating,  
You desire information about vaccines,

**WRITE US.**

OUR VACCINES ARE THE LOWEST PRICED, RELIABLE GOODS ON THE MARKET.

The United States Vaccine Company, Inc.

Kirke, Geary & Co., Sacramento.  
Western Wholesale Drug Co., Los Angeles.

**FRESNO, CAL.**

## Black Leg Vaccine

### PASTEUR VACCINE CO. CHICAGO SAN FRANCISCO.

Emery's Poultry Foods are sold by all dealers and commission men because they are the **BEST**

MANUFACTURED BY

**N. OHLANDT & CO.,** Indiana and 24th Sts., San Francisco.



"CLIFF," REGISTERED A. K. C. No. 70,011

If you need a dog to herd your cattle,  
GET THE BEST! The best is a

**Thoroughbred Scotch Collie**

We have Puppies and full-grown stock constantly on hand. For particulars giving pedigree, etc. Address, Toyakano Kennels, Colfax, Placer Co. Cal.

## BULLS FOR SALE.

Registered and High-Grade **SHORTHORNS.**

All Inoculated for Texas Fever, at **CHOWCHILLA STOCK FARM.**

Address... **ISAAC BIRD, Merced, Cal.**

## FOR SALE. Dairy-Bred Shorthorn Bulls.

Thoroughbred from the best dairy families. Sired by my New York bull, "Princess Duke." Bull calves from 3 months to 1 year old. Come and see the stock.

Phone RED 123. **J. W. McCORD, Hanford, Cal.**

## Must Hatch Incubator.

Send for 1904 Catalogue D if interested in poultry raising—40 pages of valuable information FREE.

**MUST HATCH INCUBATOR CO.,** PETALUMA, CAL.

### NO GAS TO KILL

Very little lamp gas in an incubator egg chamber often kills every germ. No gas can possibly creep into the

**SURE HATCH INCUBATOR**

because it's heated by our rustless, heavy copper, hot water circulator. Don't waste money and lose good eggs experimenting. Send for free catalog, E. 16.

**SEATTLE PRODUCE CO.** Pacific Coast Agents, Eugene, Ore. Sure Hatch Incubator Co., Makers, Clay Center, Neb.

### NO HUMBUG Farmer's Brighton's

Swine V. Stock Marker and Calf Dehornor. Stops swine from rooting. Makes 40 different size marks. Extracts Duros. Price \$1.50. Send \$1 for trial. 1715 Olive, send balance. Pat'd May 6, 1902. Hog and Calf Holder only 75c. **GEORGE BOOS, Mfr., FAIRFIELD, IOWA.**

### BUFF COCHINS. SILVER GRAY DORKINGS.

Only highest quality. First prizes won at several shows. Eggs \$2.00, express prepaid. White fantail pigeons. **HARRY MCINTIRE, San Diego, Cal.**

**CRONK'S Improved Staple Puller** 11 in. long **IS AT THE FRONT.** Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull staples when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid **CRONK & CARRIER MFG. CO., Elmira, N. Y.**

**F.S. BURCH Ear Labels** for SHEEP, HOGS and CATTLE, from \$1.00 per 100 up. Best on the market. Send for Free Catalogue Stockmen's Supplies. **F. S. BURCH & CO., 144 Illinois St., Chicago**

Not to be compared to the ordinary Fresno Scraper offered on this coast. Heavier material, stiffer and superior construction. Runners in back of bowl.



"Fresno" Improved Scraper.

3 1/2-foot, 4-foot and 5-foot. Send for Catalogue.

**HOOKE & CO. SAN FRANCISCO.**

## Cocoanut Oil Cake.

THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

**EL DORADO LINSEED OIL WORKS CO.** 208 California St., San Francisco, Cal.

## AUTOMOBILES

AT YOUR OWN PRICE.

We have them new at \$425 and second hand just as good as new at \$350 UP.

BE UP-TO-DATE! BE ECONOMICAL! INVESTIGATE!

**MOTOR VEHICLE CO.**

A. C. Wheelock, Mgr.

1814 Market Street, SAN FRANCISCO, CAL.

## Potash

is removed in large quantities from the soil by the growing of crops and selling them from the farm.

Unless the Potash be restored to the soil, good crops can not continue.

We have printed a little book containing valuable facts gathered from the records of accurate experiments in reclaiming soils, and we will be glad to send a copy free of charge to any farmer who will write for it.

**GERMAN KALI WORKS,** 93 Nassau St., New York.

**MEYER, WILSON & CO.,** San Francisco, Cal., Sole Agents for the Pacific Coast.

## SPRAYING—A NEW IDEA.

**HOGUE'S EYE PROTECTOR.**

Absolute Protection from Poisonous Sprays.

Adjustable to any eyes. Made of finest optical glass. Will not rust. Will last for years. Send for Price List.

**HOGUE OPTICAL CO.,** 211 Post St., San Francisco, Cal.

## A Constant Force

on the nozzle, a fine spray and thorough agitating of the mixture, all from driving along the orchard row, with

**WALLACE'S POWER SPRAYER**

It fits any wagon gear and attaches to any shape supply tank. Saves 25% of liquid and half the labor of operating. High pressure through compressed air—enough to keep two 4 point Vermorel nozzles going. Only hand work is directing the nozzle. Write for free booklet **WALLACE MACHINERY CO.,** Champaign, Ill.

## PATENTS

OBTAINED IN ALL CIVILIZED COUNTRIES.

EXPENSE SAVED INVENTORS BY PRELIMINARY SEARCHES.

COMMUNICATIONS CONFIDENTIAL.

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports since 1793, with full copies of U. S. Patents since 1872. As a result we are able to give reliable advice as to the patentability of an article, frequently saving the inventor the cost of an application. Our Washington branch tends exclusively to our business before the Patent Office. All worthy inventions patented through DEWEY, STRONG & CO.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, including filing of Caveats, Trade-Marks, Copyrights, Labels; prepare Assignments, Licenses and Agreements; give Opinions on Patentability and Infringements, etc. Circulars free on application.

## DEWEY, STRONG & CO.,

(ESTABLISHED 1860.)

**PATENT AGENTS,**

330 Market Street, San Francisco, Cal.  
and 918 F Street, Washington, D. C.



## Agricultural Review.

### Butte.

**A LIVING FROM A SINGLE ACRE.**—Chico Record: For the purpose of illustrating what can be done with one acre of ground, a Record representative interviewed F. L. Martenette, who owns just one acre and devotes a portion of his time to the chickens. In the outset, it may well be stated that Martenette gives his little chicken business intelligent application, and that is the secret of his success. He raises chickens, not for chicken shows, but for their egg-producing qualities. On the one acre of ground he has 135 laying hens, the gross receipts from which were during the month of October \$61.45, this being for eggs sold at the ruling market price. Feed and other necessary expenses during the month for the care of the chickens cost \$10, leaving him a balance of \$51.45 as profit, and this on a one-acre tract of ground, on which his house and barn stand, is abundantly large for 150 laying hens and growing stock. It might well be incidentally mentioned that on the same ground he has a number of almond trees from which the crop this season sold for about \$200.

**NAVEL ORANGES.**—Biggs Argus: H. S. Brink is shipping Navel oranges to San Francisco from his acre-and-a-quarter orchard in Pitts Addition. His 200 trees are now in full bearing, and Mr. Brink will market from this small orchard about 500 boxes of first quality Navel oranges, which at a fair estimate will realize for the owner in cash about \$800.

### Contra Costa.

**VINEYARD PRUNING.**—Clayton Correspondence Oakland Enquirer: The pruning of the vineyards goes on at a rapid rate this year. At the Glen Terry vineyards the pruners have made good headway at this early date. The plowing at the Mount Diablo vineyard is all done on the new vineyard and work is now on for the planting of an increased acreage of vines.

### Fresno.

**SELMA ORANGES AND LEMONS.**—Fresno County Enterprise: P. Rasmussen has reason to be proud of his success at growing oranges and lemons. At his home in Selma he has twenty-three orange and three lemon trees, which produce in abundance each year. Last year he sold in the local market one and one-half tons of oranges of excellent quality, besides \$11 worth of lemons from a single tree. He has one tree now full of the Lisbon variety of lemons that is a beauty. The very large fruit has grown almost in clusters and is burdening the small limbs with its immense weight. He estimates the lemons on this tree to be worth at least \$14.

**IMPROVING IRRIGATION SYSTEM.**—The Fresno Canal and Irrigation Co. is reported to be spending a large sum of money in improving its irrigation system and in making extensions. Altogether \$55,000 is being expended, about \$20,000 of the amount being used on the Centerville and Kingsburg canal, which will be extended to Selma, and the capacity of the ditch increased from 30% to 40%. The balance of the appropriation will be devoted to levee work and new ditches.

**DIRECTORY OF VINEYARDISTS.**—The new directory of Fresno includes a list of vineyardists adjacent to the city. The book contains 10,350 names, giving an estimated population of 19,215, as against 14,624 for 1901. There are 5000 people dwelling in the suburbs of Fresno, beyond the city limits.

**BIG PUMPKINS.**—Selma Enterprise: The most prolific pumpkin vine put in evidence so far this season is one produced by J. W. Plank on the T. L. Jones ranch, southwest of this city. It was a mammoth vine, the main root of which, 8 inches beneath the surface of the ground, measured 11½ inches in circumference, and the one vine produced forty-six pumpkins, that weighed in the aggregate 1473 pounds.

### Humboldt.

**GLANDERS AT BRICELAND.**—Eureka Standard: The long distance telephone wire between here and the southern part of the county has been kept hot since last evening with reports and appeals for help to the supervisors, in a situation that threatens the live stock of the county, particularly horses. The report comes from Briceland that in that vicinity there are several horses and mules in the last stages of glanders, and the appeals are from the residents of that part of the county for action by the board in stamping out the disease before it can spread further.

ther. County Veterinary Backenstose left post haste for Briceland.

### Kings.

**BUSY BEES.**—Hanford Journal: Workmen employed in setting up a stove at Fred Foster's home experienced considerable difficulty in creating sufficient draft to keep a fire kindled in the stove going, so concluded that the chimney contained some obstacle. Investigation verified the supposition, for it was found that a swarm of bees had taken possession of the flue and there was also therein stored about fifty pounds of honey.

**AMONG THE BEE MEN.**—Hanford Sentinel: Wednesday, Dec. 9, there was a meeting of beekeepers in the basement rooms of the court house, at which there was a good attendance. The report was made at the meeting that the product was moving some, and that the association is now getting from 4½c to 5½c for the honey from the apiaries. The matter of requeening the swarms also came up for its share of consideration, and in reference to this matter F. M. Hart told a Sentinel reporter Friday afternoon that it is very important, for if enough swarms are found to need requeening it will be a good job for some one, and will also put the stock of bees in much better condition. An effort is now on foot to ascertain how much requeening there is to be done, and then action will be taken in the matter.

### Lake and Mendocino.

**RECENT HOP SALES.**—Ukiah Dispatch-Democrat: Messrs. Scuddamore and Stevens, of Lake county, sold their hops in Ukiah Tuesday to E. M. Ford. The price is said to have been 20½ cents. W. A. Ford bought Joseph Spottswood's hops Wednesday on private terms. He also contracted Mr. Spottswood's next year's crop to the extent of ten tons at 15c.

### Monterey.

**WEALTH OF JESSE D. CARR.**—The will of the late Jesse D. Carr, which was filed for probate at Salinas on the 19th, disposes of real estate, personal property and money of the aggregate value of over \$750,000. It devises to each of his five grandchildren 200 shares of the capital stock of the "Jesse D. Carr Land & Livestock Company of Modoc County;" to a number of his old friends and to the M. E. Church South of Salinas, the aggregate sum of \$6400; to Alisal Lodge, No. 165, I. O. O. F., of Salinas, for its Widows' and Orphans' Fund, the sum of \$1000, and the residue of the estate to his three children, share and share alike.

### Placer.

**ORANGE CROP ALREADY MARKETING.**—A Rocklin dispatch to the Sacramento Bee says the yield of Placer county oranges has been full this season, and of most superior quality, and is now marketed in advance of the shipment of the first carload from the Riverside and Los Angeles regions, which indicates the superiority of Central and Northern California for profitable market results. The orchards of J. Parker Whitney shipped over 1,000,000 oranges this season, and forwarded its last cargo from Rocklin on December 8th, an order from Chicago, and have shipped carloads to the latter city, Cincinnati, Boston and New York, and a carload early last month on order from a San Francisco house to Australia.

### San Benito.

**HELPING FARMERS KILL SQUIRRELS.**—Hollister Advance: The Board of Supervisors has decided to try an experiment in squirrel poisoning. Wm. Pinkerton of Pleyto has a recipe for poison that works great destruction to the pests. This stuff costs six cents a pound ready for use. The poisoned grain will be sold to farmers desirous of using it by the county at three cents a pound. The county clerk will manage the distribution, and as soon as the poison is ready, public announcement will be made of the manner in which it can be obtained. If the plan works successfully it will be continued indefinitely. The supervisors of several other counties, including San Luis Obispo and Monterey, have arranged to distribute this squirrel poison.

### San Joaquin.

**A PROFITABLE COW.**—Lodi Sentinel: From the ranch of W. J. Ham, a few miles west of Lodi, comes a report of what has been done with one cow the past season. The butter made from April 18th to December 12th, one week less than eight months, amounted to 352 pounds, of which 277 pounds were sold for \$61.35 and 75 pounds used at home, value \$16.61, making \$77.96; \$4.70 worth of milk were sold and \$18 used, making \$100.36 as value

of butter and milk. The calf was sold for \$20, making \$120.36 from one cow in less than eight months. The cow is now giving three gallons of milk per day. No mill feed or grain has been used, her ration being dry alfalfa hay, with a little green rye grass and alfalfa.

**VINEYARD SOLD FOR \$400 PER ACRE.**—Fred Lee has sold his fifteen-acre vineyard to Nathan Ellis, an Eastern man, and Levi Atwood, a Lodi resident. The vineyard consists of fifteen acres, ten of which have been in bearing for several seasons. Mr. Lee states that the price paid for the portion in bearing was \$400 per acre.

**LOCKJAW TREATED SUCCESSFULLY.**—Stockton Record: Veterinary Surgeon J. H. Eddy returned last evening from Tracy, where he performed an operation upon a horse suffering from lockjaw. The animal ran a nail in its foot and lockjaw set in. Its owner, Mr. Trillman, is very anxious to save the animal, which is a valuable one. Although lockjaw is regarded as fatal, Dr. Eddy believes the operation will prove successful. He administered the anti-toxine treatment.

### Solano.

**CONTRACTING FOR TOMATOES.**—A canning company at Dixon is contracting with farmers in that vicinity for trial crops of tomatoes next season, and at least 100 acres will be devoted to that purpose. The company is offering \$8 per ton for tomatoes delivered at its plant. Crops of 15 to 35 tons per acre are reported from land around Dixon, and the tomatoes are said to be superior to those shipped in to the cannery from other points.

### Sonoma.

**POULTRY ASSOCIATION WANTS TO STAMP EGGS.**—Petaluma Courier: The Petaluma branch of the Sonoma County Association met Saturday at the city hall, H. Graff in the chair, with H. D. Pressey as secretary. Mr. Graff read resolutions passed at Santa Clara, among which was a proposal to stamp each egg with a rubber stamp. There was also a proposal to start an official poultry newspaper at Santa Rosa, to be called The California Co-operator. Each member of the Association is to be liable to the extent of 1% of his eggs and poultry. Any member was to have thirty days to consider whether he should draw out or not, and then bind himself for five years.

### Tehama.

**LARGE ACREAGE IN GRAIN.**—Red Bluff News: The rain was hardly needed yet, as the ground was in fine condition for plowing, and had it held off for another two weeks the farmers would probably have gotten in all their winter-sown grain. A large acreage of grain is in and the season so far promises well for good crops.

## DR. WILLIAMS' SCOUR CURE.

THE ONLY RELIABLE REMEDY FOR  
Diarrhoea, Dysentery, Bloody  
Flux, White Scours, Etc.,

of Calves, Foals and other Young Animals.

Full directions with each bottle.

ORDER THROUGH YOUR DRUGGIST, OR SENT  
BY EXPRESS PREPAID.

Price \$1 a Bottle!

Prepared by E. O. Webb, Jr., Ph. G.,  
Petaluma, Cal.

**45 YEARS**  
the good old reliable  
**Cahoon**  
Broadcast SEEDER  
has held the first place for seed sowing and equitable distribution. NOW they are sending FREE a book telling how, when, why and what to sow. Write for it. COODELL COMPANY, 58 Main St., Antrim, N. H.

## FOR SALE, 800 ft. Sheet Iron Water Pipe

No. 14 black iron, double riveted, slip joints in columns. Diameter 8 inches. Made by Francis Smith & Co. Never been used. Thirty cents per foot in any quantity.

Address W. E. HAYES, Los Banos, Cal.

J. L. BOURLAND, Bishop, Inyo Co., Cal. Breeder of choice Thoroughbred Duroc Hogs. Five sows of unrelated families. Breeding stock for sale.

## CALIFORNIA ALFALFA and FRUIT LAND COMPANY.

The bane of California's prosperity has been the sale of poor land to homeseekers.

### We have some of the Best Land in California,

Hence in the World, suitable for Alfalfa and Fruit. The severest test of good land is its capacity to raise crops of alfalfa or fruit. We guarantee the land to be adapted to the purpose for which it is sold.

It can be had in Small Farms for Homes or in Large Tracts for Colonization.

Inquire further of

CHARLES WESLEY REED, President,  
Mills Building, 7th floor, Rooms 20-21,  
San Francisco, Cal.

Or of—

T. L. REED, Manager,  
Reedley,  
Fresno county, California.

## CHEAPEST and BEST TREES IN THE STATE.

Cherries, Sugar Prunes, Bartlett Pears, Peaches, Almonds, Plums, Plums.  
Prices at wholesale or retail.

Also Seed Jerusalem Artichokes for hog feed.

CHARLES WESLEY REED,  
Mills Building, 7th floor, rooms 20-21,  
San Francisco, Cal.

## DIVIDEND NOTICE

### The German Savings and Loan Society,

526 CALIFORNIA STREET.

For the half year ending with December 31, 1903, a dividend has been declared at the rate of three and one-quarter (3¼) per cent per annum on all deposits, free of taxes, payable on and after Saturday, January 2, 1904.

GEORGE TOURNY, Secretary.

## DIVIDEND NOTICE

### San Francisco Savings Union

532 California Street, Corner Webb.

For the half year ending with the 31st of December, 1903, a dividend has been declared at the rate per annum of three and one-half (3½) per cent on term deposits, and three (3) per cent on ordinary deposits, free of taxes, payable on and after Saturday, January 2nd, 1904.

LOVELL WHITE, Cashier.

## DIVIDEND NOTICE

### California Safe Deposit and Trust Company

Corner California and Montgomery Streets.

For the six months ending December 31, 1903, dividends have been declared on deposits in the savings department of this company, as follows: On term deposits at the rate of 3 3/4 per cent per annum, and on ordinary deposits at the rate of 3 per cent per annum, free of taxes and payable on and after Saturday, January 2, 1904. Dividends uncalled for are added to the principal after January 1, 1904. J. DALZELL BROWN, Manager.

## Warranted Seed

Our seed is sold under three warrants—see catalogue. We were the first firm to give warrants. If your seedsman sells you seed whose purity and vitality give full satisfaction, stick to him. If not, try ours. Prices reasonable. Catalogue free.

J. J. H. GREGORY & SON,  
Marblehead, Mass.

## WANTED, AFTER JANUARY 1st, PLACE AS FOREMAN ON RANCH.

Advertiser is a young man; has fifteen years' experience in the West and California. Address Mgr. Riverside Plantation, Rural No. 1, Monroe, La.

## DON'T BUY GASOLINE ENGINES

one-cylinder engines. Cost less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-5-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.

until you have "The Master Workman,"

investigated a two-cylinder gasoline engine, superior to all others. It has no vibration, can be mounted on any light wagon as a portable with little or no expense. Weighs less than 1-2 of one-cylinder engines; 1-2 weight means 1-2 freight. Give size of engine required. We make 2-4-5-6-8-10-12-16 horse power. Please mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Estab. 1853. Meagher and 15th St., CHICAGO.



# The Markets.

## San Francisco Produce Report.

SAN FRANCISCO, December 22, 1903.

### Wheat.

There has been a generally firmer tone to the spot market for wheat and higher prices for both December and May options, with speculative trading mainly in May, as all December, 1903, contracts will have to be closed the coming week. The advance in speculative values here was largely in sympathy with Chicago, where several heavy weights are said to be carrying big quantities of wheat, and with the closing of Russian ports, as is usual at this time of year, and with the troubles between Japan and Russia unsettled, the war cloud still hovering over the countries of the Czar and the Mikado, the bulls in the speculative field argue that prospects are good for an increased demand and higher prices for American wheat. No matter which way wheat goes in the speculative market, the profits therein are likely to be absorbed by a few manipulators. In the local market there is very little actual wheat offering, and present demand for same is mainly on milling account. Millers have been compelled to advance bids for desirable wheat, and the higher prices named by buyers are not drawing forth great quantities of grain from any quarter.

California Milling.....\$1 40 @ 1 50  
Cal. No. 1 shipping, alongside.....1 35 @ 1 37½  
Oregon Club.....1 35 @ 1 40

### PRICES OF FUTURES.

During past week the range on options was:  
December, 1903, delivery, \$1.35½@1.38½.  
May, 1904, delivery, \$1.33½@1.36½.  
Tuesday, at the forenoon session of Exchange, for December, 1903, wheat, \$1.37½ was bid. \$1.38½ asked; May, 1904, sold at \$1.35½@1.35½.

### Flour.

Movement is slow, both for shipment and on local account, which is generally the case at the end of the year, and aside from the fact that the mid-Winter holidays are invariably a quiet period in the flour trade, there is further substantial reason for the present absence of activity, stocks being of light volume and holders as a rule not disposed to crowd business.

Superfine, lower grades.....\$3 00 @ 3 25  
Superfine, good to choice.....3 35 @ 3 50  
Country grades, extras.....4 00 @ 4 25  
Choice and extra choice.....4 25 @ 4 50  
Fancy brands, jobbing.....4 50 @ 4 75  
Oregon, Bakers' extra.....3 50 @ 4 00  
Washington, Bakers' extra.....3 50 @ 4 15

### Barley.

Values for this cereal have been maintained in the open market at much the same range as preceding week, with tendency to firmness on high grade stock, only a small proportion of present offerings being of this description. Receipts were of fair volume, showing some increase as compared with several weeks preceding, but the increase was mainly barley from Oregon and Washington, the grain being brought forward to protect Call Board contracts. Tenders of delivery are now being made on December contracts, and there are likely not many of this month's contracts now unsettled, as they will all have to be closed up the coming week.

Feed, No. 1 to choice.....\$1 12½@1 15  
Feed, fair to good.....1 10 @ 1 12½  
Brewing, No. 1 to choice.....1 16¼@1 22½  
Chevalier, No. 1 to choice.....1 37½@1 47½  
Chevalier, common to fair.....1 12½@1 32½

### Oats.

Market has been inclining in favor of the selling interest, especially for the more desirable grades. Receipts were fairly liberal, mainly from the North, and represented mostly deliveries to millers on previous purchases. Choice to select seed oats are being offered sparingly and in a small way are commanding stiffer prices than are warranted as regular quotations.

White oats, fancy feed.....\$1 32½@1 35  
White, good to choice.....1 27½@1 30  
White, poor to fair.....1 22½@1 25  
Milling.....1 27½@1 32½  
Surprise, good to choice.....1 25 @ 1 35  
Black Russian feed.....1 25 @ 1 40  
Black for seed.....1 50 @ 1 65  
Red, fair to choice.....1 22½@1 35

### Beans.

There are no evidences of much trading, but market presents a generally healthy tone, there being no heavy offerings of any variety and no undue selling pressure. Pinks have been lately receiving the most attention, partly on speculative account, and prevailing values for this variety are being particularly well maintained. Tendency on Limas and Black-eyes has been to a little more firmness than lately current. Red Kidneys are in very light stock and are commanding stiff prices.

Pea, fair to good, 100 lbs.....\$3 00 @ 3 25  
Small White, good to choice.....2 90 @ 3 10  
Large White.....2 40 @ 2 60  
Pinks, good to choice.....2 60 @ 2 75  
Limas, good to choice.....2 35 @ 2 45  
Red Kidneys.....1 00 @ 1 25  
Reds.....3 25 @ 3 50  
Limas, good to choice.....3 00 @ 3 10  
Black-eye Beans.....2 00 @ 2 15  
Garbanzos, large.....2 00 @ 2 25  
Garbanzos, Small.....1 25 @ 1 50

### Dried Peas.

Market is firm for both Green and Niles, with offerings light and a very fair inquiry.

Green Peas, California.....2 50 @ —  
Niles Peas.....2 35 @ 2 50

### Hops.

Stocks are mostly in second hands, not only on this coast, but also in the East and in Europe, and market for good to choice is ruling firm at prevailing values. Common qualities are not much sought after, and where transfers of the same are effected comparatively low prices have to be accepted. Low-grade Oregon are quoted down to 15c, and there are some too poor to readily command this figure. England is reported sold out, Belgium and Holland taking more of her crops than she could spare and compelling her to buy German hops to cover shortage.

California, good to choice, 1903 crop.....19 @ 22½

### Wool.

Local market continues inactive and business reported on the Atlantic side is of insignificant proportions. To have dullness prevailing at present is not unusual. It would be phenomenal to have it otherwise. Quotations are unchanged, but values are necessarily largely nominal at this date.

Humboldt and Mendocino.....11 @ 13  
Mountain, free.....9 @ 11  
San Joaquin Plains.....7 @ 10

### Hay and Straw.

Again there are complaints of a scarcity of freight cars to bring hay forward, and market in consequence has been showing more firmness for most descriptions, but more particularly for best grades of horse hay, and also for good to choice alfalfa, offerings of the latter having lately shown material decrease. Straw continued in light supply.

Wheat, good to choice.....\$13 50 @ 16 00  
Wheat and Oat.....13 00 @ 15 50  
Oat, fair to choice.....11 00 @ 14 50  
Barley.....10 00 @ 13 00  
Clover.....10 50 @ 11 50  
Alfalfa.....10 50 @ 12 50  
Stock hay.....9 00 @ 9 50  
Compressed.....13 00 @ 16 00  
Straw, per bale.....55 @ 65

### Millstuffs.

Stocks of Bran are ahead of immediate requirements and market is easy in tone. Middlings are being steadily held. Rolled Barley and Milled Corn remain quotably as last noted, with supplies only moderate.

Bran, per ton.....\$18 50 @ 19 50  
Middlings.....25 00 @ 28 00  
Shorts, Oregon.....19 00 @ 20 50  
Barley, Rolled.....24 00 @ 25 00  
Cornmeal.....28 00 @ 29 00  
Cracked Corn.....28 50 @ 29 50

### Seeds.

Market for Alfalfa continues to present a firm tone, spot stocks being of very light volume, either domestic or imported. Many buyers are giving the California product the preference over imported at same figures. Mustard Seed is being steadily held, with movement light. Not much Flaxseed offering. Current values on Bird Seed are being well maintained.

Alfalfa, Cal., good to choice.....\$15 00 @ 16 00  
Alfalfa, Utah.....15 00 @ 16 00  
Flax.....2 00 @ 2 50  
Mustard, Yellow.....2 75 @ 3 00  
Mustard, Trieste.....3 00 @ 3 25  
Canary.....Per lb. 6 @ —  
Rape.....13½ @ 24  
Hemp.....3 @ 3½  
Timothy.....6 @ —

### Live Stock and Meats.

Choice Beef is not plentiful and is meeting with a firm market, demand being good at full current rates. Second and third grade Beef is in ample supply and market for same shows no special firmness. Veal is in light receipt and choice meets with ready sale at prevailing values. Mutton is in moderate supply, but offerings do not include much of high grade. Choice Wethers are in good request. Lamb now offering is mostly too heavy to be especially sought after; Young in fine condition would bring a material advance on quotations. Hogs ruled fairly steady in consequence of rather light receipts, but they are too high for packers.

Allowing for the shrinkage of about 50%, which is exacted in buying cattle on the hoof, live cattle command as much or more per pound than dressed beef, the shrinkage exacted being the slaughterers' profit.

The following quotations for beef and mutton are based on prices realized by slaughterers from wholesale dealers:

Beef, 1st quality, dressed, net per lb.....63½ @ 71½  
Beef, 2nd quality.....6 @ 6½  
Beef, 3rd quality.....5 @ 5½  
Mutton—ewes, 75 lbs; wethers.....8 @ 8½  
Hogs, hard grain, 140 to 200 lbs.....5¼ @ —  
Hogs, large, hard, over 200 pounds.....5 @ 5¼  
Hogs, small, fat.....5 @ 5¼  
Veal, small, per lb.....8½ @ 9½  
Lamb, per lb.....9 @ 10

### Hides, Skins and Tallow.

Trade in this department is not brisk, but for desirable stock prevailing values are being tolerably well maintained.

### Bags and Bagging.

Little doing in this line, December being invariably a dull time of year in the bag trade.

### Poultry.

There were heavy arrivals of Eastern and Northern, alive and dressed, and fairly liberal receipts of California stock. While the demand was good, it was largely for Turkeys on Christmas account, and prices for this fowl did not rule nearly so high as Thanksgiving week. Extra large and fat Chickens, Ducks and Geese brought fairly good prices. Pigeons ruled steady.

Turkeys, dressed, per lb.....\$ 23 @ 26  
Turkeys, young gobblers, per lb.....20 @ 22  
Turkeys, young hens per lb.....20 @ 22  
Hens, California, per dozen.....4 50 @ 5 50  
Hens, large.....5 50 @ 6 50  
Roosters, old.....5 00 @ 5 50  
Roosters, young (full-grown).....5 00 @ 6 00  
Fryers.....5 00 @ 5 50  
Broilers, large.....4 50 @ 5 00  
Broilers, small to medium.....3 50 @ 4 00  
Ducks, old, per dozen.....5 50 @ 6 50  
Ducks, young, per dozen.....7 00 @ 7 50  
Geese, per pair.....2 00 @ 2 25  
Goslings, per pair.....2 00 @ 2 25  
Pigeons, old, per dozen.....1 00 @ 1 25  
Pigeons, young.....2 25 @ 2 50

### Butter.

Stocks of fresh, other than strictly fancy, are far ahead of immediate demand, and the market for the general run of offerings is decidedly weak. There are still heavy quantities of cubo butter in cold storage and this is proving a serious handicap to the market for fresh.

Creamery, extra, per lb.....25 @ 26  
Creamery, firsts.....23 @ 24  
Creamery, seconds.....22 @ 23  
Dairy, select.....23 @ 24  
Dairy, firsts.....21 @ 22  
Dairy, seconds.....19 @ 20  
Cold storage.....21 @ 23  
Mixed Store.....15 @ 17

### Eggs.

Arrivals of fresh are on the increase and prices have declined sharply. At the reduced figures, however, there was a very fair demand and no special accumulations. Considerable quantities of cold storage eggs are still on hand, mostly held by bakers and large consumers.

California, select, large, white and fresh.....40 @ —  
California, select, irregular color & size.....32½ @ 37½  
California, good to choice store.....30 @ 32½  
Eastern, cold storage.....25 @ 27

### Vegetables.

Fresh vegetables were in increased supply from the South, but there was a good demand, and desirable qualities sold in the main to fair advantage. Onion market was moderately firm for best, but weak for off qualities.

Beans, Wax, per lb.....6 @ 9  
Beans, String, per lb.....5 @ 9

Cabbage, choice garden, per 100 lbs.....50 @ —  
Cucumbers, per large box.....6 @ —  
Egg Plant, per lb.....6 @ 10  
Garlic, per lb.....6 @ 7  
Onions, Yellow Danver, per ctn.....90 @ 1 25  
Okra, Green, per small box.....— @ —  
Peas, Sweet Garden, per lb.....3 @ 5  
Peppers Green per lb.....3 @ 6  
Rhubarb, per lb.....4 @ 5  
Summer Squash, per small box.....75 @ 1 25  
Tomatoes, Bay, per large box.....75 @ 1 25  
Tomatoes, Los Angeles, per crate.....1 00 @ 1 50

NOTE.—Large boxes are what are known to the trade as "pay boxes," which have to be returned or paid for. They are open top, with band holes in the ends, and weigh when filled from 50 to 60 lbs. gross. Small boxes are free boxes, about the same as the regular fruit box, weighing when full from 20 to 30 lbs. gross.

### Potatoes.

Choice to select Burbanks were not in heavy stock and were quite steadily held. Common qualities moved slowly at rather low figures. Sweets were in lighter stock than previous week and brought better prices.

Sacramento River Burbanks.....\$ 60 @ 85  
Salinas Burbanks, per ctn.....1 10 @ 1 45  
Petaluma and Tomales Burbanks.....75 @ 1 00  
Oregon Burbanks.....85 @ 1 15  
Sweets.....1 25 @ 1 40

### Fresh Fruits.

Apples continued in liberal stock, with very fair demand for best qualities, but not much inquiry for common and defective fruit. Strictly fancy Spitzenberg, or equally desirable, were more readily sold at \$1.75@2.00 per box, than were small and wormy apples of inferior varieties at 25c. per box. Oregon Baldwins were offering in considerable quantity and were quotable at \$1.25@1.50 per box. Lady apples were in fair request on holiday account, but there will be little inquiry for them after this week. Winter Nelis Pears out of cold storage are bringing good prices. Grapes are practically out and no longer quotable in a regular way. Strawberries were in moderate receipt, but were mostly unripe and did not bring very good figures.

Apples, fancy, per 4-tier box.....\$ 1 50 @ 1 75  
Apples, good to choice, per 50-lb box.....75 @ 1 25  
Apples, common to fair, per 50-lb box.....30 @ 60  
Apples Lady, per box.....1 00 @ 2 25  
Cranberries, Eastern, per bbl.....12 00 @ 13 00  
Pears, Winter Nelis, per 40-lb box.....1 25 @ 1 75  
Persimmons, per box.....50 @ 1 00  
Strawberries, Melinda, per chest.....2 50 @ 5 00

### Dried Fruits.

Very little doing locally or on Eastern account, but some movement to foreign countries, mainly of small Prunes to Europe. The German steamer Abydos, sailing on 18th, took 866,136 lbs. Prunes, principally for Germany. The

## OLIVER'S Columbian Gang Plow



## SIMPLE, STRONG AND DURABLE.

The Columbian has all the valuable features of the popular Casaday, but is stronger and simpler in construction. Light in draft and easy to manage.

## FOR THE HILLSIDE IT HAS NO EQUAL.

Fitted with Chilled or Steel Bases, or with Oliver's No. 40 Gang Bases if desired.

WRITE US FOR SPECIAL CIRCULAR.

OLIVER CHILLED PLOW WORKS,

13 and 15 Main Street,

SAN FRANCISCO, CAL.



steamer San Jose, sailing on 19th, carried 85,862 lbs. Prunes for Germany and 11,400 lbs. Peaches for England. Small Prunes are now in very light supply, but medium and large sizes are being offered freely, some on the 2½c. bag basis. Pears are in light stock and market very firm for desirable qualities. Pitted Plums are very difficult to obtain in anything like wholesale quantity. Peaches are still in good supply, with prices fairly steady. Apricots are in light stock and market firm at quotations. Apples are ruling steady but quiet, with offerings not particularly heavy.

## EVAPORATED OR BLEACHED.

Apples, 50-lb boxes, rings, pressed, good to choice.....	4½ @ 4½
Apples, extra choice to fancy, 50-lb boxes.....	5 @ 5½
Apricots, Moorpark.....	8 @ 10½
Apricots, Royal, good to choice, ½ lb.....	6½ @ 7½
Apricots, Royal, fancy.....	8 @ 9
Figs, 10-lb box, 1-lb cartons.....	55 @ 75
Nectarines, ½ lb.....	4 @ 5
Peaches, unpeeled, fair to good.....	4 @ 4½
Peaches, unpeeled, choice.....	5 @ 5½
Peaches, unpeeled, fancy.....	5½ @ 6¼
Peaches, unpeeled, extra fancy.....	7½ @ 8
Peaches, peeled.....	10 @ 12½
Pears, halves, fancy.....	9 @ 10
Pears, halves, choice.....	8 @ 8½
Pears, halves, fair to good.....	7 @ 7½
Plums, Black, pitted.....	5½ @ 6½
Plums, Yellow, pitted.....	7½ @ 8½
Prunes, Silver, good to fancy.....	5 @ 7
Prunes, in bags, 4 sizes, 2½ @ 2¾c; 40-50s, 4 @ 4¼c; 50-60s, 3½ @ 3¾c; 60-70s, 2½ @ 3c; 70-80s, 2½ @ 2¾c; 80-90s, 2½ @ 2¾c; 90-100s, 1½ @ 2c; small, 1¼ @ 1½c.	

## COMMON SUN-DRIED.

Apples, sliced.....	3¼ @ 3½
Apples, quartered.....	3¼ @ 3½
Figs, White, in bulk.....	— @ —
Figs, Black, in sacks, ½ lb.....	3½ @ 4

## Raisins.

Association prices are unchanged. Some outside stock is reported selling ½c. under Association figures.

Following are current quotations for raisins as announced by the Growers' Association of Fresno for crop of 1903, f. o. b. at Fresno:

Raisins, 50-lb. boxes—Loose Muscatel, 2-crown, 5¼c. per lb.; 3-crown, 5½c.; 4-crown, 6¼c.; Seedless Muscatels, 4¼c.; do floated, 4½c.; unbleached Sultanas, 4½c.; Thompson's Seedless, 5¼c.	
Malaga, loose, 2-crown, 5c. per lb.; do 3-crown, 5½c.; Valencia cured, 4¼c.; Pacific do, 3¼c.; Oriental do, 2¾c. Seeded raisins, 16-oz. packages, fancy, 8c. per lb.; choice, 7½c.; 12-oz. packages, fancy, 6½c.; choice, 6¼c.; in bulk, fancy, 7¼c.; choice, 7½c.	

## Citrus Fruits.

Orange market is weak, owing to offerings being mostly unripe. Eight carloads sold Monday at auction, fancy Navals going at \$1.00@2.20 per box, choice, 80c.@\$1.25, standard, 50c.@\$1.10. Grape Fruit brought \$1.50@2.50 per box. No further auction until next Monday. The lemon market is quiet at unchanged values.

Oranges, Washington Navels, ½ box.....	75 @ 2 25
Oranges, Seedlings, ½ box.....	65 @ 1 25
Oranges, Japanese, as to size of box.....	65 @ 1 50
Lemons, California, select, ½ box.....	2 25 @ 2 50
Lemons, California, good to choice.....	1 50 @ 2 00
Lemons, California, fair to good.....	1 00 @ 1 50
Grape Fruit, ½ box.....	1 50 @ 2 50
Limes, Mexican, ½ box.....	4 00 @ 4 50

## Nuts.

Jobbers are reducing stocks, but are doing very little buying at present. Quotable values remain nominally as before noted. Off qualities are difficult to place at any figure.

California Almonds, shelled.....	16 @ 19
California Almonds, paper shell.....	10 @ 11
California Almonds, soft shell.....	7 @ 8
California Almonds, hard shell.....	5 @ 6
California Walnuts, soft shell.....	13 @ 14
California Walnuts, standard.....	12 @ 13
Chestnuts, California-Italian.....	8 @ 10
Peanuts, fair to prime.....	4½ @ 5½
Peanuts, Eastern, hand-picked.....	5½ @ 6½

## Wine.

The market is quiet, the wholesale demand for the present being reported slow. Offerings from first hands are by no means heavy, and it is the exception where growers are showing uneasiness or are inclined to crowd stocks to sale. The quotable range on dry wines of 1903 may be said to be 15¢@17¢ per gallon, although latter figure is more in accord with the views of holders than with the ideas of buyers. The steamer San Jose, sailing on Saturday last, carried 77,371 gallons and 60 cases, the shipment including 72,106 gallons for New York. Receipts last week were 356,450 gallons, and for preceding week were 415,000 gallons.

## Liquid Smoke Again.

To THE EDITOR:—Concerning liquid smoke, I will state for the benefit of all concerned that liquid smoke is pyroligneous acid. It is derived from crude wood tar. The use of this substance has not been studied from a hygienic standpoint. Any one who imagines that liquid smoke is equal to the real smoke is out of date. Their taste has never been cultivated.

H. E. THAYER.

Metz, Cal.

## Sure Hatch Catalogue.

Our new 1904 catalogue is now ready for mailing. No poultryman or fancier should be without this valuable book. It is beautifully illustrated and gives dozens of photos of the machines in actual operation in the hands of the people in all parts of the country. The incubators and brooders are described fully in every section, and in addition this book contains sound poultry sense. Send for one; they are free. Sure Hatch Incubator Co., Clay Center, Neb., and Indianapolis, Ind.

# THE TIME TO VACCINATE AGAINST BLACK LEG IS BEFORE YOU HAVE TROUBLE.

VACCINATION IS THEN CHEAP INSURANCE (10 cents per head or less if you buy our vaccine in quantities to get discounts).

## Cutter's Vaccines are California Stockmen's Favorites.

(A canvass of your neighbors will convince you on this point). They are safer and therefore cheaper than even free vaccine, because of the rigid care used in manufacturing and testing.

CUTTER'S BLACK LEG VACCINE IS SUPPLIED IN POWDER, STRING AND PILL FORM.

WE RECOMMEND OUR BLACK LEG PILLS as being the safest, most convenient and economical form of Black Leg Vaccine to use. Write for description of them and CUTTER'S SPECIAL BLACK PILL INJECTOR.

We also manufacture ANTHRAX (OR CHARBON) VACCINE, single and double. Thousands of doses of it were used this season in herds already affected with Anthrax (or Charbon), and in every instance the progress of the disease was stopped.

WRITE FOR OUR ANTHRAX AND BLACK LEG BOOKLETS, ALSO PRICES AND QUANTITY DISCOUNTS.

If your druggist has not got our vaccines, accept no substitutes, but order direct from

**THE CUTTER LABORATORY, 322B RIALTO BUILDING, SAN FRANCISCO, CAL.** } Formerly located at Fresno, but now located at Berkeley, Cal.

# The Fresno Nurseries

320 Acres

Make a Specialty of all kinds of

# FRUIT TREES

—AND—

# GRAPE VINES

OUR STOCK IS GROWN ON VIRGIN SOIL and the root system is perfect. Do not buy your stock until you get our prices.

We also sell the Genuine Commercial

## SMYRNA FIG

And we will supply our customers with the necessary Fig Wasps for fertilizing this fig free of cost.

Catalogue free—address

**F. H. WILSON, Proprietor,**

Box 42.

FRESNO, CAL.

—ESTABLISHED 1865.—

# PAJARO VALLEY NURSERY

THE OLDEST IN THE STATE. LOCATED IN THE FERTILE PAJARO VALLEY.

Large stock of Apple, Apple on Spy, Pear, Apricot, Peach, Plum, Prune, Cherry and Nectarine Trees.

NUT TREES, SHADE TREES, PALMS, SMALL FRUITS, ROSES, ETC.

Introducer of the Loganberry, Mammoth Blackberry. Originator and Introducer of the Linda Strawberry.

—If You Want Unirrigated California Grown Trees, Best for Our Dry Climate, We Have Them.

SEND FOR CATALOGUE AND PRICE LIST.

**JAMES WATERS, PROP. \*\*\*\*\* WATSONVILLE, CAL.**

## NATIONAL WOOD PIPE CO.

**WOOD PIPE.** Woodward Patent Machine Banded. Wheeler Patent Continuous Stave.

Los Angeles Office: 6th and Mateo Sts.

San Francisco Office: 301 Market St.

A BOOKLET, "THE WHOLE STORY ABOUT WOOD PIPE," MAILED FREE UPON REQUEST.



School of Practical, Civil, Mechanical, Electrical and Mining Engineering, Surveying, Architecture, Drawing and Assaying.

113 FULTON ST., one block west of City Hall, SAN FRANCISCO, CAL.

Open All Year. A. VAN DER NAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. Established 1864. Send for Circular.

# BRIGHT'S DISEASE AND DIABETES NEWS.

Office German Democrat,

San Francisco, Dec. 7, 1903.

To the Editors of California:

Dear Sirs—For many years an editor myself, I address you by request and as a simple duty. A great discovery has been made in this city. It is fraught with so much importance and yet is so hard to believe, that those who are personally cognizant should add the weight of their influence, be it great or small.

I not only know by contact with many of the beneficiaries, but was myself rescued from Bright's Disease by it. The cure has been found, and the difficulty in believing it is costing many lives. It is astounding how far our prejudices carry us. But the great fact is here, and acceptance means recovery.

After my own unexpected release I wouldn't let my friends rest, and several took the treatment and recovered. One was Charles F. Wacker, the Sixth street merchant. He had Diabetes and thought he was going to die. He got well and passed for a \$5000 policy.

I say to you as a brother editor that those of your friends who have Diabetes or Bright's Disease, and every one knows of some, that they can recover. I will be glad as one of the many survivors out here to give you further information. Yours, etc.,

CHAS. H. ENGELKE.

The above refers to the newly-discovered Fulton Compounds, the first cures the world has ever seen for Bright's Disease and Diabetes.

Send for literature to the John J. Fulton Co., 407 Washington St., San Francisco, Cal.

# MALTHOID ROOFING



Made in California where materials are produced. The lowest priced roofing made. Lasts longer than all others. It is weather and water-proof and fire resisting.

Send for booklet.

## The Paraffine Paint Co.

San Francisco, Seattle, Portland, Los Angeles and Denver, Colorado.





## INDEX TO VOLUME LXVI

OF THE

## PACIFIC RURAL PRESS.

From July to December, 1903.

INDEX TO VOLUME LXVI		PAGE.		PAGE.		PAGE.	
OF THE							
PACIFIC RURAL PRESS.							
From July to December, 1903.							
A		PAGE.		J		S	
*Acacia Trees at Santa Monica	33	Dairy, Elements of Success	405	Jelly Making Machine	403	*Salt in Colorado Desert	305
Agricultural Education	34, 146, 226	Dairy Live Stock	86	*Jersey, Pacific Golden Lad	321	Salt Not a Plant Food	210
Agriculture, State Board of	2, 6, 35, 95	Dairy Methods	85	Johnson Grass	205	Saltshush	3, 67, 205
Alaska Chicken Business	390	*Dam of Logs	113	Kafir Corn, Growth of	70, 279, 306, 301	Salsify	227
*Alaska Scene	115	Damping Off Seedlings	115	Kissing Bug Again	115	Santa Cruz Mountains	291
Alfalfa and Bees	324	Date Growing	213, 276, 306, 343	*Korea, Scenes in	309	Scrubs and How to Produce Them	134
Alfalfa and Burr Clover	51	*Distillate Spray	140, 160, 211, 259			Scutillaria Cyanica	107, 150
Alfalfa and Overflow	277					*Seed Growing in California	115, 119, 225, 375
Alfalfa Bacteria	301, 403	Egg Laying Contest	293			Separators and Skimming Stations	229
Alfalfa Blight	37, 231, 310	Egg Plant Growing	247	Lahor, Searce	103	Sequoias, Saving the	322, 376
Alfalfa Dodder	98, 163, 252, 291	Eggs, Cold Storage of	169	Ladybugs	39	Sheep and Forest Reserves	279, 375
Alfalfa Disking	307	*Engine, Best's Traction in South Africa	209	1 and Prices	349	Sheep Coming From Pacific Coast	308
Alfalfa Feeding	19, 51, 355, 363	Eucalypts at Santa Monica	6	Laurel, California	339	Sheep Dipping	255
*Alfalfa Growing and Haymaking	2, 5, 39, 51, 85, 147, 217, 322, 355, 356, 363, 370.	Eucalypts, Blooming Season	6	Lambs, Prices of	263	Sheep Poisoned by Black Laurel	119
Alfalfa Hay, Value of	370	Eucalypts for Bees	6, 372	Lawn Making	275	Sheep Scab Inspection	188, 263, 343
Alfalfa Seed	375	*Eucalyptus Globulus	1	*Leaf Injury by Distillate	160	Sheep Shears	119
Alkali and Irrigation	166	*Eucalyptus Growing	1, 6, 69, 163, 223, 372	Leghorns, White	241	Sheep Tax	7
Alkali, Drainage for	196, 211, 260	Eucalyptus, Native in Philippines	293	Legumes, Summer, in Orchard	131	Sheep Trespassing	279
Alkali, Gypsum for	370	*Eucalyptus Sideroxylon	1	Lemon Curing, Teague's	359	Shorthorn Color Question	5, 357
Alkali Land Investigations	214, 260	*Eucalyptus Viminalis	33	Lemon Growing	277	Shorthorns for California	68, 149
Almond, Budding Over	163	Farmers' Institutes	51, 130, 132	Lemon Sale at High Prices	277	*Shorthorns, Howard's	113
Almond Growers' Association	7, 125	Farmers' Institute Farmers' Club	348	Lemon Trade of World	279	Silk in California	376
Almond Growing	135, 167, 247, 276, 295, 387, 391	Farmers' Organizations, Value of	156	Lime on Walnut Orchard	291, 333, 363	Sisal Hemp in California	323
Almond Varieties	183, 215, 226, 276, 313	Farm Incomes in California	323	Liquid Smoke for Hams, Etc.	246	Soils, Chemistry of, Hillgard	356, 372
Almonds in Europe	21, 45, 234	Farms, Small	19, 247, 263, 326, 383	Loganberry at the East	386	Sorghum Growing	279, 306
Almonds Injured by Birds	83	Fertilizers, Advertising	402	Loganberry Pruning		Spain, California Steam Plow in	18
Almonds, Profitable	276	Fertilizers, Application of	18, 228, 356			Squash Raising	261, 295, 340
Angora Goats	212, 308, 391	Fertilizers, By Simon Simple	228, 292	Manures, Values of Animal	291	Squash Bugs	50
Auts, to Expel From Houses	3, 13, 44	Fertilizers, Home Mixing	114	Medicinal Plants	163	Squaw Carpet or Mahala Mat	226
Anthrax	213, 220	Fertilizers for Vines	100	Melons, Cassaba	135	Stable Floor Construction	307, 413
*Apiary of M. R. Kuehne	369	Fig Canning	22	Milk Fever	342	State Fair Premiums	182, 191, 198, 212
Apiary Statistics	133, 369	Fig Growing	23, 67, 158, 211, 326, 388	Milk, Long Keeping	52	Stock Breeders' Association	182, 274
Apple, Ben Davis	217	Fig Shipping, Fresh	55	*Mexico, Views in	97	Stock, Modern Breeds of	16
Apple Blooming Season	313	Fig Tree, Yield of Old	55	Mosquito Killing Plant	134	*Stone Bridge, St. Helena	255
Apple Boxed	172	Financial Condition, Sound	305	Moss, Removing From Fruit Trees	163	Street Planting, Suggestions for	276
Apple Cider Making	262	Flax Growing	326, 343	*Mountain Activities	257	Sulphur, Ground or Sublimed	75
Apple Drying	163, 242, 323	Forage Plants for Moist Lands	115	Mulching vs. Cultivation	281	Summer-Fallow Yield	79
Apple Leaf Aphis	39	Forage Plants, Winter Growth of	115, 323, 354	Mules in Demand	301	Sun Heat, Uses of	44
Apple Leaf Folder	213	Forcing in California	355	Mules, Selecting	269	Sunstroke of Horses	76
Apple Mildew	179	Forest Fires	82	Nematodes on Fig Roots	338	Squirrel and Cats	311
Apple, New Wax	147	Forest Reserves	71	Nursery From Planter's Point of View	4	Squirrel Killing	27
Apple Planting and Pruning	18	Forest Restoration	215	Nursery Stock Law, Canadian	293	Squirrel Poison	279
Apple, Rome Beauty	295	Forest Investigations	5, 47, 396	Nutmeg Trees, California	45	Squirrel Trap	14
Apple, Red Bietigheimer	135, 179	Forestry at University, Pinchot	180	Nuts, Food Value of	261	State Fair	2, 6, 35, 95, 178, 278
Apple, Sterility of Pearmain	227	Forestry Exhibit at World's Fair	149	Nuts for Germination	274	*St. Louis World's Fair	226, 411
Apple, Yellow Newtown	227	Forestry School	5	Nuts, See Almond, Walnut, etc.		St. Louis World's Fair Commission	18, 273
Apples in Southern California	183, 205, 311	Free Market in San Francisco	370			Strawberries, Irrigated	182
Apple Sales in San Francisco	402	Frost Fighting	163, 243	*Oak, Beauty of Tulare	177	Strawberries, Southern California	340
Apples, Watsonville	119, 215, 279, 327, 359, 391	Fruit by Parcel Post	45	Oak Hooker	113	Strawberry Growing, Watsonville	205, 311
Apricot Cutting	7	Fruit Brushing Machine	311	Oak Roots and Fruit Trees	99	Strawberry, Longevity of	242
Apricot Drying	212, 242, 386	Fruit, Co-operative Selling	1, 164, 268, 370, 406	Oak Trees, Forage Value of	17, 21	Stump Killing	19, 102, 259
Apricot Pruning	87, 103, 213	Fruit Distribution	305, 389	*Oaks, California	17, 49, 81, 177, 229	Sunflower, Large	231
Apricot Prices	78, 119	Fruit, Dried, Industry	30, 165	Oats, Profit in Red Oat	103	Sweet Potato Growing	207, 311, 343, 391
Apricot Pits	4, 39	Fruit Drying Outfit	387	Olive Canning	87		
Apricot Seedling	83	Fruit Foothill Suggestions	325	Olive Pickling Vats	322, 339	Taxation, Agricultural	370
Apricot, Tilton	44	Fruit for Canning not Formalized	340	Olive Trees From Tip Cuttings	403	*Tents, Measuring Contents	129
Artichoke, Jerusalem	295, 307, 339	Fruit Gardens in California	338, 370, 386	Olives Disappointing	18	Texas Fever	28
Ashes, Uses of	130	Fruit Growers' Convention	62	*Onion Field for Seed	225	Texas Horticulturists	69
Asparagus Growing	51, 54, 307	Fruit Growing, Profitable	236	Orange Budding	3	Thistle, Rustlax	179
Assessors' Stories	258	Fruit Growing, Woman	236	Orange Fertilizing	131, 147	Thistle, Yellow Star	179
Australian Trees	69	Fruit Industry, Report to Pomological Society	174	Orange, Florida Product	146	Thrips on Field Crops	90
Avenue Planting	276	Fruit Inspector, Watsonville	168	Orange Growing	326	Ticks in Chicken Houses	83, 243
		Fruit Prices	23, 39, 71, 119, 135	Orange Leaf Essence	69	Timber, Strength of American	364
Bags, Prison Output	167	Fruit Sales in Europe	92, 172, 322, 334, 353, 366, 380	Orange Marmalade	30	Tomatoe Growing	263
Barley, Irrigated	7, 295	Fruit Sales, New Zealand	380	Orange Sales	7, 39, 71, 87, 295	Tomato Diseases	19, 83, 47
Barley, Moravian	143	Fruit Shipments, 1903	85, 92, 164, 389	Orange Shipments in all Countries	277	Tomato Growing, Bang System With	373
Barley, Yield of	7, 295	Fruit Shipping, Private Car Problem	21	Orange Tree, Die Back	67	Tuberculosis, Views on	53, 149, 196, 373
Beau Growing	71, 87, 103, 167, 215, 217, 279	Fruit Specimens, Preserving	70	*Orange, Trifoliata Stocks	343, 375	Tuberculosis in Fowls	195, 380
Bean Product of California	269	Fruit Sulphuring	322	Orange, Valencia	343	Turkey Growing	308
Beans, Canned	183	Fruit Tray Cleaning Machine	55	Orange Varieties		Trees Killed by Illuminating Gas	276
Beans, Lima	279, 391	Fruit Trees, Longevity of	18			Trees, Planting on Streets	69
Beans, Thrups on	50	Fruit Trees, Inspecting	7			Trees, Pruning Shade	194
Bee History, California	225, 340	Fruit Trees, Selecting	4			Tule Potatoes	295
Bee Keepers' Meetings	51, 131, 253	Fruit Wastes	359			Tulare Lake Levees	391
Bee Stings and Treatment	37	Fruits, Food Value of	261				
Bee Stings and Horses	295	*Fumigation for Insects	129, 140, 263, 323, 343			University Short Courses	146, 158
Bees and Alfalfa	324					Umbrella Tree Berries Poisonous	326
Bees and King Birds	84	Gardening in Sierras	221, 317				
Bees and Yellow Jessamine	54	Geese Raising, California	216				
Bees, Foul Brood and New Law	116, 167	Ginseng	66, 275				
Bees in Dwelling	115	Glanders	54, 119				
Bees in Orchards	7	*Gold From Orchard Lands	65				
Beet Drying	86	Gophers, Poisoning	102, 348				
Beet Growing	54, 119, 167, 263, 309, 391	Grain Growers' Association	189				
Beet Pulp, Feeding	231, 247, 391	Grain Piled to Expel Mice	174				
Beet Sugar Product of U. S.	301	Grange Matters	Each Issue				
Beet Sugar, Uses of	310	Grape, Black Prince	231				
Bermuda Grass	98, 179, 213, 386	Grape Growing, Santa Cruz Mountains	245, 301				
Birds, Notes on California	52, 68, 71, 103	Grape, Emperor	351, 374, 375				
Blackberry, Evergreen	128	Grape for Stock Feed	359				
Blackberry Growing	23, 279, 338	Grape Juice, Preparing	20				
Blackleg and Treatment	12	Grape, Morocco	325				
Black Scale Destroyer	180	Grape Picking	199				
Bluestocking Seed Grain	103	Grape Prices	199, 213, 231, 247, 263, 279, 295, 326, 342, 391.				
Borer, Flat Headed	243	Grape, Rose of Peru	263				
Branding Fluid	69	Grape, Seedless	183, 306				
Brandy Product of California	354	Grape, Tokay, Sales	263, 295, 311				
Buckwheat Growing	210	Grapes, Almeria	149				
Buds, Drowning Out	3	Grapes for Wine Making	100, 119, 183				
Buds, Half-and-Half	274	Grass, Barn Yard	163				
Butter Makers' Convention	322	Grass, Bromo	355				
Butter Making, Cost of	85	Grass for Moist Land	114, 211				
Butter Tests, Competitive	244	Grass, Kentucky Red Top	151				
		Grass, Panicum Sanguinale	211				
		Grass, "Sleeping"	118				
		Grass, Tall Out	226				
		*Grasshopper Killing	273, 289				
		Green Manuring	131, 243				
		Guernsey Butter Record	290				
		Gum Disease of Citrus Trees	130, 131				
							</







